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Movements in the United States

Interregional Flow Patterns and Transportation Requirements in 1985

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Wheat Movements in the United States

Interregional Flow Patterns and Transportation Requirements in 1985

Michael Reed, Professor, Department of Agricultural Economics, University of Kentucky, Lexington, Kentucky.

Lowell D. Hill, L.J. Norton Professor, Department of Agricultural Economics, University of Illinois, Urbana-Champaign, Illinois.

North Central Regional Research Bulletin 423
Southern Cooperative Series Bulletin 347
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Urbana-Champaign, Illinois

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S-176 Administrative Advisor
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This bulletin is one in a series of North Central and Southern Cooperative bulletins. It represents a contribution to North Central Project NC-137, "Effect of Changes in Transportation on Performance of the U.S. Agricultural Transportation System," and to Southern Regional Project S-176, "Interregional Marketing Systems for Grains and Soybeans." The Illinois Agricultural Experiment Station is the publishing station. Requests for copies of this bulletin may be sent to Office of Agricultural Communications and Education, 67 Mumford Hall, 1301 West Gregory Drive, University of Illinois, Urbana, Illinois 61801.

Abstract

Information about the origin, destination, and mode of transport in marketing grain is often useful in making policy and investment decisions related to grain. The data and analyses presented in this publication were developed to aid in making these policy and investment decisions. This bulletin contains the results of a nationwide study to obtain the volumes of wheat moved by truck, rail, and water among destinations in 42 states during 1985. The study was designed to update a similar survey conducted in 1977. This bulletin contains a description of the findings of the 1985 survey and an analysis of the changes that have occurred between the 1977 survey and 1985.

Preface

This bulletin contains the results of nationwide research to obtain the volumes of wheat moved between U.S. origins and destinations using various transport modes in 1985. Other publications in this series provide similar information for sorghum, corn, soybeans, and oats. It updates a similar survey conducted in 1977.

During 1986, members of two university research committees located in 21 states conducted surveys to gather data about the origin and destination of wheat, corn, soybeans, sorghum, and oats in each of their states. In another 12 states, private consultants or university faculty at land grant institutions in the states administered the survey under contracts. Finally, data about grain and soybean movement in an additional nine states were gathered using a combination of secondary data, neighboring state surveys, and interviews with managers of major firms and state agricultural officials. The resulting database contained information from 42 states for the year 1985.

The industry surveys were coordinated in the Department of Agricultural Economics at the University of Illinois at Champaign-Urbana. The data were summarized, verified, and reconciled under the supervision of Joseph Vercimak, University of Illinois, and Dr. Dean Baldwin, Ohio State University. The success of this research project is due to the cooperation of thousands of grain marketing firms and the efforts of researchers around the United States.

The research was partially funded by the Federal Railroad Administration under contract No. DTFR 53-84-C-00036, the Agricultural Marketing Service, USDA; the Agricultural Cooperative Service, USDA; the Illinois Department of Agriculture and the Soo Line Railroad. Administration of the grant funds was coordinated by Joseph E. Vercimak. The research is a contribution to regional research projects S-176, "Effect of Changes in Marketing Systems for Grains and Soybeans" and NC-137, "Effect of Changes in Transportation on Performance of the U.S. Agricultural Transportation System."

Contents

Purpose of the Study 1
Methodology 1
Production and Utilization 3
Analysis of Shipments and Receipts 9
Comparisons with 1977 15
Summary and Implications 24
Bibliography 25
Appendix 27

Figures and Tables

Figures

1. United States Wheat Production and Exports, 1977-1986.....4
2. Proportion of 1985 Wheat Movements to Export Regions from Each Originating State 12

Tables

1. Wheat Production by Class, 197, and 1985.....4
2. U.S. Wheat Production by State, 1977, 1985, and Changes.....5
3. Wheat Supply and Disappearance in the United States for Marketing Years from 1977/78 to 1988/89 (September/August Marketing Year). 6
4. Wheat Exports by Port and Region, 1977 and 1985.....7
5. Export Regions, Port Areas, and the Ports Included in Each Area 8
6. 1985 Exports of U.S. Wheat by Export Region and Destination.....10
7. 1985 Intrastate Wheat Shipments for Each State by Mode of Transport 13
8. 1985 Interstate Wheat Shipments by State and Mode of Transport.....14
9. 1985 Shipments of Wheat to Ports by State and Mode of Transport.....16
10. 1985 Interstate Wheat Receipts by State and Mode of Transport 17
11. 1977 Interstate Shipments of Wheat for Each State and Mode of Transport.....19
12. Total Volume of Interstate Wheat Shipments by Mode of Transport, 1977 vs. 1985. 20
13. Changes in Port Receipts and Inspections for Export, 1977 and 1985. 20
14. 1985 Movements of Wheat to Points of Export for Each Originating State by Three Modes of Transport.....21
15. 1977 Movements of Wheat to Points of Export for Each Originating State by Three Modes of Transport.....23

Appendix Tables

Receipts and Shipments of Wheat by State, 1985

16. Alabama 27
17. Arizona 27
18. Arkansas 28
19. California 28
20. Colorado 29
21. Connecticut.....29
22. Delaware 30
23. Florida 30
24. Georgia 31
25. Idaho.....31
26. Illinois 32
27. Indiana 33
28. Iowa 34
29. Kansas 34
30. Kentucky 35
31. Louisiana 35
32. Maryland.....36
33. Massachusetts 36
34. Michigan 36
35. Minnesota 37
36. Mississippi 37
37. Missouri 38
38. Montana.....38
39. Nebraska 39
40. Nevada 40
41. New Jersey 40
42. New Mexico 41
43. New York.....41
44. North Carolina 42
45. North Dakota.....42
46. Ohio 43
47. Oklahoma 43
48. Oregon 44
49. Pennsylvania 44
50. South Carolina 45
51. South Dakota 45
52. Tennessee 46
53. Texas 46
54. Utah 47
55. Virginia 47
56. Washington 48
57. West Virginia 48
58. Wisconsin 49
59. Wyoming 49
60. California Ports 50
61. Chicago/Duluth Ports 50
62. Eastern Gulf Ports..... 50
63. Louisiana Gulf Ports..... 50
64. North Atlantic Ports.....51
65. Pacific Northwest Ports 51
66. Saginaw Port Area 51
67. South Atlantic Ports 51
68. Texas Gulf Ports 52
69. Toledo Port Area 52
70. Direct Exports from Interior Points 52

Wheat Movements in the United States

Interregional Flow Patterns and Transportation Requirements in 1985

Purpose of the Study

Introduction

Information on industry trends is important in making policy and investment decisions for every industry, but particularly for the grain industry, where investment decisions are long-term and government policies and regulations have a considerable influence on industry performance. However, much of the information needed to make these critical decisions is not available in secondary sources. For example, data on grain flow patterns are needed to assess future changes in marketing and distribution, but the secondary data available on quantities of grain shipped among locations do not provide adequate detail.

Grain flow data are important for a variety of other reasons as well. They are useful to grain firms in identifying additional marketing opportunities and assisting in decisions on location of new handling, storage, processing and transportation facilities. Because of the geographical nature of grain flows, trends in transportation and marketing differ so much between regions that aggregate data on exports cannot provide the information needed at the state and local levels. Finally, the impact of the Staggers Rail Act of 1980 which substantially deregulated the railroad industry can best be assessed through a study of this kind. The information from this study will help federal and state policy-makers determine the full impacts of this major policy change.

Objectives of the Study

The objectives of this study are to:

1. Determine the volume of wheat moving between various United States origins and destinations.

2. Determine the transportation modes employed in United States wheat movements.

3. Compare the 1977 and 1985 patterns of shipments and transportation modes.

All references to the 1977 study of wheat flows have as their source the document "Wheat Movements in the United States, 1977." (Leath, Mack N., Lowell D. Hill and Stephen W. Fuller, 1981).

Methodology

Grain flow data were collected for the 1985 calendar year primarily through personal interviews with representatives of grain handling, storage, and processing firms. These firms included country elevators, subterminal elevators, terminal elevators, feed manufacturers, export elevators, commercial feedlots, poultry operations, processors, and millers. Representatives in each of the states surveyed were responsible for drawing a statewide sample and conducting the interviews. All 33 major producing and consuming states were included in the survey. This was accomplished by using members of two regional grain marketing and transportation committees at land-grant institutions in the states and by contracting with individuals in those grain producing states that were not represented on the regional committees. An additional nine states considered to be significant grain producers were added using secondary data and selected interviews.

In addition, information was obtained from the Interstate Commerce Commission about volumes shipped by rail and the U.S. Army Corps of Engineers (COE) about volumes shipped by barge.

Sampling Method

In those categories where the firms were few in number (such as processors), all of the firms were included in the survey. In those categories where the number of firms was too large for complete enumeration with available resources, the researchers used a stratified sampling technique. The stratified sample data were then expanded using multipliers to yield estimates of totals for each state.

For example, the stratified technique was used with inland grain elevators. The sampling of these elevators in each state was carried out by listing elevators in descending order of storage capacity. Then, starting with those having the largest capacity, firms with successively smaller capacities were added to the sample until the total storage capacity of firms in the sample equalled 25 percent of the elevator storage in the state. A random sample of the remaining firms was then obtained, with not less than 10 percent of all firms in each category included. Additional stratification was used in states with large numbers of firms.

Some states derived samples using plants rather than firms. The research methodology allowed sampling by plant or firm provided that elevator capacity was adequately represented in the sample and the samples could be expanded to represent total grain transported. Some states used a complete enumeration of all firms.

River elevators were sampled at a rate of not less than 50 percent. Feed firms were surveyed from the largest downward until 10 percent of the total capacity was surveyed. A random sample was taken from the remaining firms. Integrated firms such as feedlots and poultry operations were sampled at the rate of not less than 50 percent. For processing firms, the sampling rate was usually 100 percent since the number of firms in each state was relatively small.

The data provided for 1985 were less complete than those provided for 1977 because some major processors and grain handlers refused to provide volume data by origin and destination. They gave a variety reasons for not providing the data.

To compensate for the lack of usable data from small firms, volume statistics from a firm of similar size and geographic location selected at random were included when available. For larger elevators or processors who did not supply data, volumes and flows were estimated from secondary sources or from the interviewers' prior knowledge of the firms. The estimates were then validated by the grain marketing specialist in each state based on his/her knowledge of grain movements and price relationships in the state.

Procedure

Each of the grain handlers and processors interviewed provided the same type of information: the volume, origin, and mode of transport for all grain received at and shipped from their facilities. Data were coded using a consistent format and sent to the University of Illinois for processing. Processing involved verifying the data and summarizing state totals that would be used in reconciling flows. The data were then sent to Ohio State University where the estimates of quantities transported between each origin and destination as reported by the shipping states were reconciled with the estimates reported by the receiving states. Responsibility for integrating these data and generating the data tables for the five commodities was distributed among four universities: corn at the University of Minnesota, soybeans and oats at Ohio State University, wheat at the University of Kentucky, and sorghum at the University of Illinois at Urbana-Champaign.

Transport information was also obtained from the Interstate Commerce Commission about rail shipments (the Carload Waybill sample), and from the U.S. Army Corps of Engineers about barge shipments (the COE sample).

After the survey data were compiled and tabulated, representatives from the major receiving and shipping states met to reconcile differences among the three sources of volume information: (1) the survey data from the receiving states, (2) the survey data from the shipping states, and (3) secondary data including the Waybill sample from the Interstate Commerce Commission and the complete enumeration of all barge movements recorded on the data tapes by the U.S. Army Corps of Engineers (COE).

The low sampling rate for some types of shipments included in the Waybill sample gives rise to potential errors when the data are summarized on a state or sub-state basis. Records of total volume of barge shipments and receipts in the COE data tapes were quite accurate but the tapes did not always identify ultimate origins and destinations when barges were transhipped or destinations were changed in transit.

Truck data were available only from the survey. Shipments from farms to elevators were identified only through records of elevator receipts. Truck shipments across state lines were especially difficult to verify since neither truckers nor farmers were included in the survey.

A final verification process was then undertaken using secondary data about movements into or out of each state and the estimate of "exportable surplus" for each state. A grain marketing specialist from each state university in the regional committee calculated the surplus or deficit in his/her state in the following way: the estimate of the total amount of wheat processed by millers, fed to livestock, or used for seed during calendar year 1985 was subtracted from the estimate of the amount of wheat produced during 1985. The remainder was then adjusted by the amount of increase or decrease in inventory during the year. The resulting figure was accepted as an estimate of the surplus available for export or the deficit to be filled by imports from other states. Because much of this information, especially consumption by livestock, was based on estimates, the numbers were not expected to match reconciled flows exactly. However, these data provided additional information from which to judge the reasonableness of receipts and shipment data from the various sources. Estimates of production-utilization by state show geographical and year-to-year variation (Wailes and Vercimak, 1989).

These comparisons among the various data sources increased the confidence in the accuracy of estimates based on the less-than-complete samples obtained from the population of all grain-handling firms.

Finally, the logic and consistency of each flow summary contained in these reports was checked by the representative who organized and conducted the survey in each state.

Production and Utilization

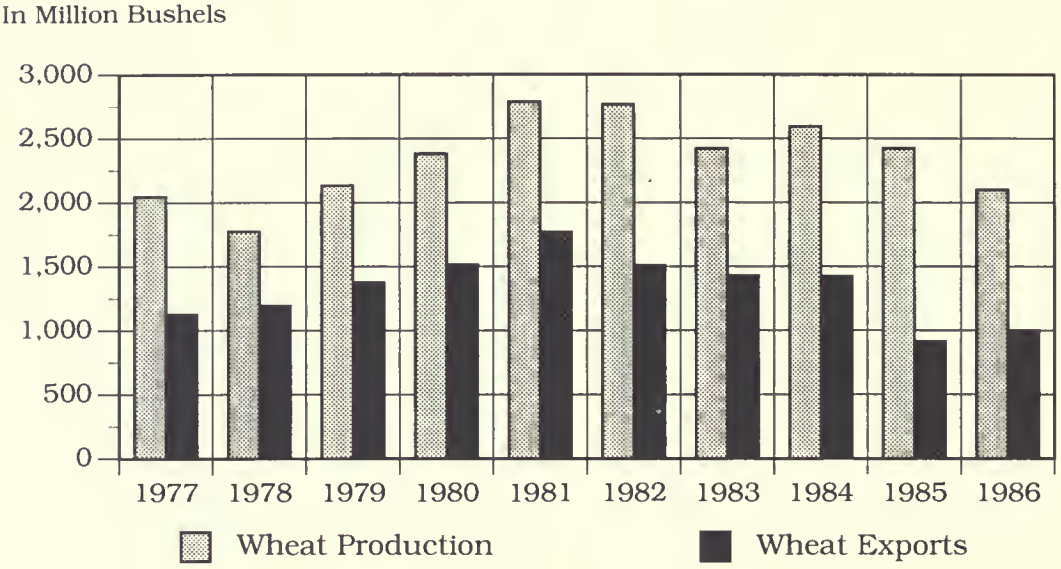
Wheat is the second largest crop in the United States in volume produced and the third largest in farm cash receipts. Production since 1977 has fluctuated from 1.8 billion bushels in 1978 to 2.8 billion bushels in 1981 (Figure 1). United States wheat production was 19 percent higher in 1985 than in 1977.

Table 1 indicates how the wheat production increase between 1977 and 1985 was distributed among wheat classes. Durum wheat production increased by 41 percent, followed by hard red winter at 23 percent. Soft red winter production had the smallest increase (5 percent). Essentially, all of this increased production was due to yield increases. Harvested acreage of winter and spring wheat (other than durum) was lower in 1985 than in 1977. Durum acreage was 2 percent higher in 1985 than in 1977, but yields were 38 percent higher in 1985.

Wheat stocks increased by 28 percent between 1977 and 1985. Production simply outpaced domestic and foreign demand for United States wheat. Most of these stocks were controlled directly or indirectly by the government through its price support and loan programs.

Wheat production was concentrated in the Northern and Southern Plains states, particularly Kansas, Minnesota, North Dakota, Oklahoma, South Dakota, and Texas (Table 2). The 1985 production concentration of these regions was very similar to 1977—those six states accounted for 52.4 percent of

Figure 1.
United States Wheat Production and Exports, 1977-1986.



Source: FAO

Table 1.
Wheat Production by Class, 1977 and 1985.

Wheat Class	1977	1985	Percent Change
	millions of bushels		
Hard Red Winter	996	1230	23
Hard Red Spring	399	460	15
Soft Red Winter	349	368	5
White	221	254	15
Durum	80	113	41
Total	2045	2425	18.6

Source: *Wheat Situation*, U.S.D.A.

Table 2.
U.S. Wheat Production by State, 1977, 1985, and Changes.

State	1977	1985	Change	Percent Change
		millions of bushels		
Alabama	3.1	12.8	9.7	313
Arizona	10.1	9.8	-0.3	-3
Arkansas	25.7	18.2	-7.5	-29
California	42.5	63.9	26.4	62
Colorado	57.3	139.3	82.0	143
Delaware	0.9	2.1	1.2	133
Florida	0.4	4.3	3.9	975
Georgia	3.3	25.6	22.3	676
Idaho	57.9	70.0	12.1	21
Illinois	67.5	36.8	-30.7	-45
Indiana	55.8	37.1	-18.7	-34
Iowa	4.0	5.4	1.4	35
Kansas	344.9	433.2	88.3	26
Kentucky	10.1	10.5	0.4	4
Louisiana	1.3	7.1	5.8	446
Maryland	3.6	6.5	2.9	81
Michigan	33.0	45.0	12.0	36
Minnesota	131.9	142.4	10.5	8
Mississippi	3.6	9.3	5.7	158
Missouri	72.1	49.9	-22.2	-31
Montana	130.9	50.2	-80.7	-62
Nebraska	103.3	89.7	-13.6	-13
Nevada	1.4	1.8	0.4	29
New Jersey	1.2	1.9	0.7	58
New Mexico	9.1	20.5	11.4	125
New York	6.8	8.4	1.6	24
North Carolina	6.0	22.0	16.0	267
North Dakota	229.9	323.3	93.4	41
Ohio	72.4	58.9	-13.5	-19
Oklahoma	175.5	165.0	-10.5	-6
Oregon	47.6	56.0	8.4	18
Pennsylvania	8.1	10.1	2.0	25
South Carolina	2.5	12.5	10.0	400
South Dakota	72.0	111.2	39.0	54
Tennessee	10.1	8.0	-2.1	-21
Texas	117.5	187.2	69.7	59
Utah	5.7	8.6	1.9	51
Virginia	6.2	10.5	4.3	69
Washington	101.3	128.3	27.0	27
Wisconsin	3.1	8.8	5.7	184
Wyoming	5.6	5.5	-0.1	-2
Total	2,045.5	2,425.1	379.6	19

Source: *Agricultural Statistics*, U.S.D.A.

United States production in 1977 versus 56.2 percent in 1985.

The largest changes in wheat production for 1985 compared to 1977 were in North Dakota, Kansas, Colorado, Texas and South Dakota. Colorado increased wheat production from 57.3 million bushels in 1977 to 139 million bushels in 1985, moving from the thirteenth leading wheat state to the fifth leading state. The production increases for Kansas and North Dakota were mainly related to yield increases, but yield and acreage increases were responsible for higher production in Colorado, South Dakota, and Texas.

Eleven states more than doubled their wheat production in 1985 compared to 1977. Most were southern states with low levels of production. Of this group, only Colorado, Georgia, New Mexico, North Carolina and South Carolina had production increases of more than 10 million bushels. Each of these states, except New Mexico, had substantial increases in wheat acreage. New Mexico's production increase was due mainly to increased yields.

Three states had substantial declines in production: Montana, Illinois, and Missouri. Montana's decline was due to weather, which

Table 3.
Wheat Supply and Disappearance in the United States for Marketing Years from 1977/78 to 1988/89 (September/August Marketing Year).

	Supply				Disappearance				
Year	Stocks	Production	Imports	Supply	Food	Seed	Feed	Export[a]	Total Use
				millions of bushels					
1977/78	1,113	2,046	2	2,161	587	80	193	1,124	1,983
1978/79	1,178	1,776	2	2,955	592	87	158	1,194	2,031
1979/80	924	2,134	2	3,060	596	101	86	1,375	2,158
1980/81	902	2,381	3	3,285	611	113	59	1,514	2,296
1981/82	989	2,785	3	3,777	602	110	135	1,771	2,618
1982/83	1,159	2,765	8	3,932	616	97	195	1,509	2,417
1983/84	1,515	2,420	4	3,939	643	100	369	1,429	2,540
1984/85	1,399	2,595	9	4,003	651	98	404	1,424	2,578
1985/86	1,425	2,425	15	3,865	678	93	274	915	1,960
1986/87	1,905	2,091	21	4,018	696	84	413	1,004	2,197
1987/88	1,821	2,107	16	3,945	727	85	380	1,592	2,684
1988/89	1,261	1,811	24	3,096	720	103	156	1,425	2,403

[a] These figures include exports of wheat flour in wheat equivalents.

Source: *Wheat Situation*, U.S.D.A.

Table 4.
Wheat Exports by Port and Region, 1977 and 1985.

Export Region	1977	1985	Percent Change
	millions of bushels		
Atlantic			
North Atlantic	16.2	6.1	-62
South Atlantic	21.2	44.1	108
Subtotal	37.4	50.2	34
Great Lakes			
Chicago	1.6	2.7	56
Duluth-Superior	89.1	52.7	-43
Saginaw	2.4	1.0	-100
Toledo	15.9	15.6	-87
Subtotal	108.9	72.1	-49
Gulf			
East Gulf	12.5	6.1	-51
Louisiana Gulf	162.2	156.7	-3
North Texas Gulf	267.7	283.4	6
South Texas Gulf	30.0	29.3	-2
Subtotal	472.6	475.5	1
Pacific			
California	13.1	14.7	12
Columbia River	211.9	281.1	33
Puget Sound	47.5	11.1	-77
Subtotal	272.6	306.9	13
Total	891.4	904.6	1

Source: *Grain and Feed Market News*, Agricultural Marketing Service, U.S.D.A., various issues.

lowered yields and generated substantial unharvested acreages. The reduced production in Illinois and Missouri reflected fewer planted acres.

Total domestic disappearance of wheat increased during most years between 1977 and 1985 (Table 3), and was 22 percent higher in 1985 than in 1977. United States food use of wheat followed a fairly steady, upward trend between 1977 and 1985, with annual food use 15 percent higher in 1985 than in 1977. Seed use fluctuated due to changes in plantings between years, with no clear trend. Feed use has been relatively high since 1983 because of low wheat prices.

United States wheat exports (including wheat flour equivalents) rose until 1981/82, then in 1985/86 fell to their lowest level since 1971. Wheat exports in 1985/86 were 19 percent lower than in 1977/78. The tremendous drop in United States wheat exports during this time has been attributed to inflexible United States price supports and the rise in the dollar's value since 1985. Subsidized wheat flour exports by the European Community also reduced United States wheat flour exports. The Food Security Act of 1985 remedied the inflexible price supports and the dollar's value fell dramatically until 1985. Both of these factors

Table 5.
Export Regions, Port Areas, and the Ports Included in Each Area.

Export Region	Export Area	Port City
Great Lakes Region	Duluth-Superior	Duluth, MN Superior, WI
	Chicago	Milwaukee, WI Manitowoc, WI Racine, WI Chicago, IL
	Toledo	Toledo, OH Huron, OH Erie, PA Buffalo, NY
	Saginaw	Carrollton, MI Saginaw, MI Zilwaukee, MI Detroit, MI
Atlantic Region	North Atlantic	Portland, ME Albany, NY Philadelphia, PA
	South Atlantic	Baltimore, MD Norfolk, VA Charleston, SC Savannah, GA
Gulf Region	East Gulf	Pascagoula, MS Mobile, AL
	Louisiana Gulf	Mississippi River Lake Charles, LA
	North Texas Gulf	Beaumont, TX Port Arthur, TX Houston, TX Galveston, TX
	South Texas Gulf	Brownsville, TX Corpus Christi, TX
Pacific Region	Columbia River	Kalama, WA Longview, WA Vancouver, WA Portland, OR Astoria, OR
	Puget Sound	Seattle, WA Tacoma, WA
	California Ports	Sacramento, CA Stockton, CA Long Beach, CA San Francisco, CA San Diego, CA

have helped to increase the volume of wheat exports.

Table 4 shows raw wheat exports and their distribution by port for calendar years 1977 and 1985 (port definitions are in Table 5). In 1985, the largest export volumes flowed through the Gulf region, with Louisiana Gulf and North Texas Gulf ports accounting for most Gulf region exports. Large export quantities were also shipped through Pacific ports, with Columbia River ports accounting for most Pacific region exports. Much smaller export volumes flowed through Great Lakes and Atlantic ports.

Raw wheat exports were only slightly larger in 1985 than in 1977. Information from Tables 3 and 4 indicates that a reduction in the exports of wheat flour accounted for most of the decline in wheat-equivalent exports in 1985. Total exports of raw wheat increased by 1 percent, from 891.4 to 904.6 million bushels during the period (Table 4).

The majority of wheat exported in 1977 moved through the North Texas Gulf and the Columbia River ports (Table 4). Both port areas increased total volume in 1985. The Pacific Northwest has a much greater role in the exports of wheat than the other grains, primarily as a result of the location of production. All of the ports in the Great Lakes region lost volume in 1985 as compared to 1977 except for Chicago. These declines were offset by a doubling of exports from the South Atlantic.

Exports by Destination

The United States exports wheat to many countries (Table 6). However, Brazil, Egypt, Japan, Korea, and Nigeria received 41.4 percent of total U.S. exports in 1985. Shipments to Brazil, Egypt, and Nigeria originated primarily in the Gulf ports; Pakistan, Portugal, and Morocco accounted for nearly all of the volume exported from the East Coast ports. The Netherlands received the majority of their exports from the Great Lakes. Korea and Japan received nearly all of their wheat from ports in the Pacific Northwest.

Analysis of Shipments and Receipts

Intrastate Shipments by Mode

Intrastate shipments in 1985 were over one-third smaller than in 1977 (see Leath, et. al, 1981). However, 1985 intrastate truck shipments could be understated by over 100 million bushels because several states, totalling 22.3 percent of the intrastate truck shipments in the 1977 survey, did not provide survey data for trucks in 1985. No secondary data exist for truck shipments so total intrastate shipments are underestimated by the unreported truck volume. Truck share of transportation based on the available data was slightly lower in 1985 (Table 7) than in 1977 and rail share was slightly higher. Truck accounted for 52.3 percent of the volume in 1985, whereas rail accounted for 45.7 percent—the respective percentages for 1977 were 54.4 and 39.9 percent. The top four intrastate-shipping states, Kansas, Minnesota, Nebraska, and Texas, accounted for 58.4 percent of the intrastate shipments. Kansas alone accounted for over one-third of the intrastate shipments. Rail deregulation could account for this increased use of truck for intrastate shipments because deregulation allowed rail service to be cut on some small branch lines which serve rural areas.

Interstate Shipments by Mode

Table 8 shows interstate shipments from each state by transportation mode (including shipments to port areas). In 1985, rail accounted for 61.9 percent of interstate shipments. Truck accounted for 20.4 percent of the interstate shipments and barge for 17.7 percent.

Three states, Kansas, Minnesota, and North Dakota, accounted for 36 percent of the interstate wheat shipments in 1985, with the top eight wheat-shipping states shipping 65 percent of the wheat. Each of the top eight

Table 6.
1985 Exports of U.S. Wheat by Export Region and Destination.

Destination	St. Lawrence Waterway	Great Lakes Region	Atlantic Region	Gulf Region	Pacific Region	Total
			thousands of bushels			
Algeria	6,260	14,759	1,310	10,257	3,171	35,757
Bangladesh	0	0	3,388	0	13,297	16,685
Bolivia	0	0	0	4,105	1,352	5,457
Brazil	0	0	0	73,693	0	73,693
Chile	0	0	242	15,163	2,145	17,550
China (Main)	2,618	0	5,080	22,318	0	30,016
China (T)	0	0	0	2,066	21,637	23,703
Colombia	0	0	0	21,531	0	21,531
Costa Rica	0	989	154	3,246	0	4,389
Dominican Republic	0	0	0	8,476	0	8,476
Ecuador	0	0	0	13,042	0	13,042
Egypt	6,161	3,851	13,731	20,851	16,320	60,914
El Salvador	0	0	0	5,564	1,281	6,845
Ethiopia	0	0	0	2,086	0	2,086
Finland	243	2,951	0	0	0	3,194
Guatemala	0	0	0	4,411	0	4,411
Haiti	0	599	0	3,865	0	4,464
Honduras	0	0	0	3,554	0	3,554
Hong Kong	0	0	0	0	3,809	3,809
Indonesia	0	391	0	2,204	12,079	14,674
Iraq	0	0	0	19,791	0	19,791
Israel	0	0	0	17,910	0	17,910
Italy	500	12,188	0	896	530	14,114
Jamaica	0	0	0	5,355	0	5,355
Japan	0	0	0	7,483	109,737	117,220
Jordan	0	0	0	5,562	1,213	6,775
Kenya	0	0	0	3,023	0	3,023
Korea	0	0	0	99	70,207	70,306

(Continued)

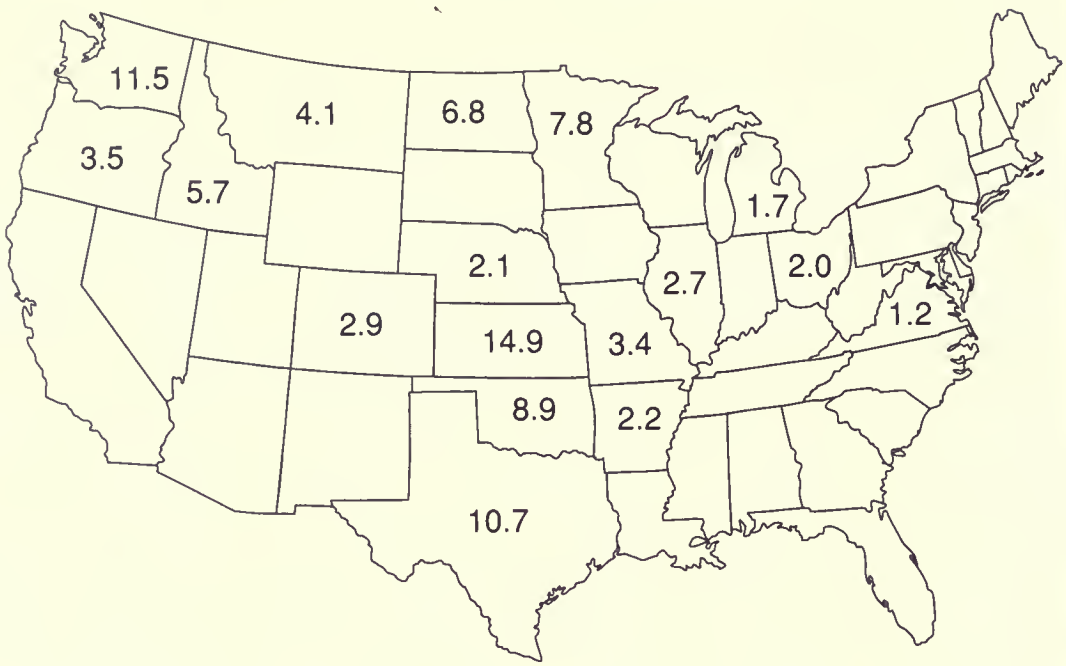
Table 6. — Continued
1985 Exports of U.S. Wheat by Export Region and Destination.

Destination	St. Lawrence Waterway	Great Lakes Region	Atlantic Region	Gulf Region	Pacific Region	Total
			thousands of bushels			
Malaysia	0	0	0	0	2,345	2,345
Morocco	772	0	6,237	7,076	0	14,085
Netherlands	75	12,451	0	2,703	0	15,229
Nigeria	0	0	0	55,080	0	55,080
Pakistan	4,814	0	9,003	0	13,910	27,727
Panama	0	0	0	2,424	335	2,759
Peru	0	44	0	5,700	0	5,744
Philippines	0	0	0	0	25,978	25,978
Poland	909	2,488	0	0	0	3,397
Portugal	0	819	6,590	15,366	0	22,775
Sri Lanka	0	0	0	7,010	1,817	8,827
Sudan	0	78	0	14,571	0	14,649
Thailand	0	0	0	0	3,066	3,066
Trinidad	0	0	0	4,251	0	4,251
Tunisia	0	0	2,508	0	0	2,508
Turkey	0	0	1,848	2,173	0	4,021
U.S.S.R.	0	0	0	39,245	0	39,245
Venezuela	0	0	0	21,846	0	21,846
Zaire	0	0	0	3,966	0	3,966
Other	388	3,488	100	17,552	2,650	24,178
Total volume	22,740	55,096	50,191	475,514	306,879	910,420
Percent of total volume	2.50	6.05	5.51	52.23	33.71	100.00

Source: *Grain and Feed Market News*, USDA, Vol. 34, No. 5 January 31, 1986, pp. 15–19.

Figure 2.

Proportion of 1985 Wheat Movements to Export Regions from Each Originating State.



shipping states in 1985 transported more wheat by rail than by truck or barge, except Minnesota and Washington. Minnesota and Washington shipped more wheat by barge. North Dakota, Colorado, and Kansas were the three leading states for truck shipments; Kansas, North Dakota, and Texas were the leading states for rail shipments; Minnesota, Washington, and Missouri were the leading states for barge shipments. Port destinations played an important role in the selection of mode of transport.

Shipments to Ports

State shipments to port areas were more concentrated than interstate shipments. Six states, Kansas, Minnesota, North Dakota, Oklahoma, Texas, and Washington, accounted for 60.6 percent of the shipments to port areas (Figure 2). Kansas provided the largest contribution to export volume, originating 138.4 million bushels, followed by Washington with 106.8 million bushels and Texas with 99.2 million bushels (Table 9).

Barge shipments accounted for a larger percentage of wheat shipped to port areas than to non-export destinations (Table 9), but rail was still the mode with the largest share (62.7 percent for rail versus 28.0 percent for barge).

Most of the shipments from Kansas, North Dakota, Oklahoma, and Texas were by rail, while most shipments from Minnesota and Washington were by barge (Table 9).

Interstate Receipts by Mode

Total interstate receipts must match total interstate shipments. Whatever is shipped from one location must be received at another. However, total volumes in Tables 8 and 10 do not match because ports are included in Table 8 but not in Table 10.

Nearly every state has flour mills requiring one or more classes of wheat. Therefore, significant volumes (above 10 million bushels) were received by 22 states (Table 10).

Minnesota alone accounted for 20.9 percent of the interstate receipts in Table 10. Ninety-eight percent of these receipts came from North and South Dakota. Other states receiving large quantities of wheat from out-of-state were Texas, Missouri, New York, Illinois, and Kansas. Each of these states either had large processing industries (Kansas, Missouri, New York, and

Table 7.
1985 Intrastate Wheat Shipments for Each State by Mode of Transport.[a]

Destination	Mode of Transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	4,320	359	0	4,679
Arizona	4,100	399	0	4,499
Arkansas	16,682	18	0	16,700
California	19,164	4,036	0	23,200
Colorado	4,492	5,601	0	10,093
Delaware	268	0	0	268
Florida	NR	348	0	348
Georgia	2,504	7,710	0	10,214
Idaho	NR	613	0	613
Illinois	29,744	3,302	877	33,923
Indiana	26,869	3,899	48	30,816
Iowa	658	951	0	1,609
Kansas	87,677	167,102	0	254,779
Kentucky	1,304	0	500	1,804
Louisiana	875	0	1,917	2,792
Michigan	7,490	2,762	0	10,252
Minnesota	25,598	25,139	54	50,791
Mississippi	2,967	252	168	3,387
Missouri	5,955	7,140	0	13,095
Montana	NR	1,172	0	1,172
Nebraska	38,031	12,961	0	50,992
New Mexico	476	0	0	476
New York	6,113	5,275	0	11,388
North Carolina	14,157	1,503	0	15,660
North Dakota	NR	7,963	0	7,963
Ohio	24,570	7,413	50	32,033
Oklahoma	NR	33,006	0	33,006
Oregon	NR	134	0	134
Pennsylvania	4,614	808	0	5,422
South Carolina	NR	2,801	0	2,801
South Dakota	2,263	177	0	2,440
Tennessee	13,250	1,660	1,287	16,197
Texas	48,960	35,485	0	84,445
Utah	1,562	1,160	0	2,722
Virginia	359	570	0	929
Washington	NR	2,000	10,000	12,000
Wisconsin	NR	927	0	927
Wyoming	34	0	0	34
Total volume	395,056	344,646	14,901	754,603
Percent of total	52.3	45.7	2.0	100.0

NR is not reported because the state did not conduct a survey.

[a] Does not include shipments to port areas.

Table 8.
1985 Interstate Wheat Shipments by State and Mode of Transport.[a]

Destination	Mode of Transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	3,204	1,357	3,137	7,698
Arizona	9,919	991	0	10,910
Arkansas	5,309	2,561	16,763	24,633
California	1,865	3,845	0	5,710
Colorado	45,443	65,863	0	111,306
Connecticut	0	131	0	131
Delaware	2,059	1,092	0	3,151
Florida	54	918	592	1,564
Georgia	565	3,602	0	4,167
Idaho	1,764	30,719	25,602	58,085
Illinois	14,080	21,784	18,720	54,584
Indiana	13,382	14,860	5,017	33,259
Iowa	2,928	4,245	3,069	10,242
Kansas	33,826	225,106	2,620	261,552
Kentucky	6,803	2,304	5,780	14,887
Louisiana	6,703	23	10,234	16,960
Maryland	3,898	2,369	0	6,267
Michigan	6,928	21,568	562	29,058
Minnesota	8,983	82,892	87,967	179,842
Mississippi	2,500	732	3,287	6,519
Missouri	3,554	17,923	31,643	53,120
Montana	18,935	57,593	0	76,528
Nebraska	6,738	48,604	2,896	58,238
Nevada	1,000	413	0	1,413
New Jersey	688	145	0	833
New Mexico	2,724	8,136	0	10,860
New York	2,219	1,882	0	4,101
North Carolina	1,562	2,766	0	4,328
North Dakota	62,130	167,507	0	229,637
Ohio	14,220	15,643	3,266	33,129
Oklahoma	14,572	88,534	10,243	113,349
Oregon	7,820	10,417	17,406	35,643
Pennsylvania	3,645	1,404	0	5,049
South Carolina	3,755	3,219	0	6,974
South Dakota	25,175	77,148	0	102,323
Tennessee	3,362	10,073	8,250	21,685
Texas	21,151	96,203	660	118,014
Utah	2,337	4,074	0	6,411
Virginia	7,473	4,887	462	12,822
Washington	1,600	45,479	60,037	107,116
West Virginia	0	0	372	372
Wisconsin	4,726	6,615	12,073	23,414
Wyoming	1,656	2,698	0	4,354
Total volume	381,255	1,158,325	330,658	1,870,238
Percent of total	20.4	61.9	17.7	100.0

[a] Includes shipments to port areas.

Illinois) or was a transshipment state (Kansas, Missouri, and Texas).

The majority of interstate receipts (excluding port areas) were moved by rail—61.1 percent. Truck accounted for 31.4 percent and barge for 7.5 percent. Comparison with Table 9 identifies the relatively greater importance of truck in transportation to domestic destinations and of barge in transportation to port regions.

Interstate Shipments and Receipts by State and Mode

Detailed data on origins and destinations of grain movements for each state and port reveal wide differences (Appendix Tables 16 – 70). The origins of receipts at three major ports were rather concentrated by state. Ninety-three percent of 1985 receipts at the Pacific Northwest ports came from six states: Colorado, Idaho, North Dakota, Montana, Oregon, and Washington. Seventy-one percent of Louisiana Gulf port receipts came from Arkansas, Illinois, Minnesota, and Missouri. Ninety-one percent of Texas Gulf port receipts came from Kansas, Oklahoma, and Texas (Appendix tables 63, 65, and 68).

Most of the major shipping and receiving states had more wheat moving by rail than by any other mode. The exceptions to this were Oregon and Washington, which shipped most of their wheat by barge to Columbia River ports, and Kansas, which received most of its wheat by truck from Colorado.

Barge volume was also slightly greater than rail in Minnesota as a result of shipments to Gulf Ports. In contrast to other grains, Illinois and Iowa shipments of wheat were primarily by rail, despite access to river transportation.

Shipments from the midwest states to processors and feed manufacturers generally exceeded shipments to ports. Consequently, barge transportation had a smaller share of wheat than it did of corn and soybeans.

Comparisons with 1977

Production and Utilization

Changes in production and utilization between 1977 and 1985 reflected weather conditions, which affected yield, and changes in government policies, which affected planted acreage. Wheat production increased from 2.0 billion bushels in 1977/78 to 2.4 billion bushels in 1985/86, an 18.6 percent increase (Table 2). Total use during the period fluctuated from year to year, but 1985/86 volume was only 1 percent below 1977/78. Feed and food use increased during this period while exports declined. The 19 percent decline in exports and 19 percent increase in production between 1977/78 and 1985/86 altered domestic and export shipment patterns.

Interstate Shipments

Total interstate shipments in 1985 were much larger than in 1977 (1.87 billion bushels in 1985 compared with 1.385 billion bushels in 1977) (Tables 8 and 11). This 35 percent increase in shipments contrasts with the 19 percent increase in production between the two periods. Large increases in production by states which are best served by truck and rail are a major reason for the 1985 increase. Production increases in Colorado, Kansas, North Dakota, and South Dakota required increased truck and rail shipments, which are often transshipped for ultimate exportation. Deregulation of rail rates was also a factor. Rail rates were down and the grain industry took advantage of lower rates by increasing rail shipments, which many times meant out-of-state rail shipments instead of the intrastate truck shipments used in 1977.

The concentration of shipments has fallen since 1977. In 1977, the top three shipping states accounted for 43.5 percent of shipments and the top eight accounted for 72.3 percent of shipments.

Table 9.
1985 Shipments of Wheat to Ports by State and Mode of Transport.

Origin State	Mode of Transportation			Total	Percent Total
	Truck	Rail	Barge		
	thousands of bushels				
Alabama	1,560	0	2,606	4,166	0.45
Arizona	5,500	0	0	5,500	0.59
Arkansas	2,080	1,961	16,456	20,497	2.21
California	1,098	3,445	0	4,543	0.49
Colorado	1,712	24,899	0	26,611	2.87
Connecticut	0	0	0	0	0.00
Delaware	0	0	0	0	0.00
Florida	0	0	592	592	0.06
Georgia	0	0	0	0	0.00
Idaho	1,000	26,517	25,602	53,119	5.72
Illinois	425	8,208	16,275	24,908	2.68
Indiana	1,079	1,880	3,824	6,783	0.73
Iowa	0	1,157	2,682	3,839	0.41
Kansas	567	135,183	2,620	138,370	14.90
Kentucky	0	0	3,682	3,682	0.40
Louisiana	2,817	0	5,011	7,828	0.84
Maryland	0	2,269	0	2,269	0.24
Massachusetts	0	0	0	0	0.00
Michigan	3,147	11,930	511	15,588	1.68
Minnesota	4,701	11,454	55,766	71,921	7.75
Mississippi	0	432	3,287	3,719	0.40
Missouri	250	11,160	20,528	31,938	3.44
Montana	1,523	36,967	0	38,490	4.14
Nebraska	0	18,277	1,534	19,811	2.13
Nevada	0	13	0	13	0.00
New Jersey	0	0	0	0	0.00
New Mexico	0	4,126	0	4,126	0.44
New York	1,027	1,544	0	2,571	0.28
North Carolina	0	773	0	773	0.08
North Dakota	7,893	55,364	0	63,257	6.81
Ohio	11,273	4,368	2,671	18,312	1.97
Oklahoma	4,984	68,033	10,043	83,060	8.94
Oregon	4,617	10,176	17,406	32,199	3.47
Pennsylvania	1,304	0	0	1,304	0.14
South Carolina	800	1,250	0	2,050	0.22
South Dakota	201	7,946	0	8,147	0.88
Tennessee	0	1,268	7,646	8,914	0.96
Texas	17,998	80,521	660	99,179	10.68
Utah	0	435	0	435	0.05
Virginia	6,707	4,349	462	11,518	1.24
Washington	1,567	45,178	60,037	106,782	11.50
West Virginia	0	0	186	186	0.02
Wisconsin	0	327	107	434	0.05
Wyoming	105	1,057	0	1,162	0.13
Total volume	85,935	582,467	260,194	928,596	100.00
Percent of total volume	9.25	62.73	28.02	100.00	

Table 10.
1985 Interstate Wheat Receipts by State and Mode of Transport.[a]

Destination	Mode of Transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	502	120	4,715	5,337
Arizona	1,979	3,596	0	5,575
Arkansas	8,058	3,368	0	11,426
California	8,694	20,227	0	28,921
Colorado	1,114	1,989	0	3,103
Connecticut	0	135	0	135
Delaware	1,748	131	0	1,879
Florida	186	4,036	5,223	9,445
Georgia	3,121	8,445	0	11,566
Idaho	1,255	811	0	2,066
Illinois	9,534	39,057	5,511	54,102
Indiana	5,002	10,542	3,705	19,249
Iowa	8,449	12,553	0	21,002
Kansas	23,247	29,075	0	52,322
Kentucky	8,965	447	0	9,412
Louisiana	140	0	186	326
Maryland	221	0	0	221
Massachusetts	0	268	0	268
Michigan	3,255	796	0	4,051
Minnesota	72,765	123,586	0	196,351
Mississippi	4,087	211	667	4,965
Missouri	21,158	37,744	2,695	61,597
Montana	1,854	2,159	0	4,013
Nebraska	23,002	14,957	0	37,959
Nevada	1,276	1,676	0	2,952
New Jersey	0	67	0	67
New Mexico	5,643	0	0	5,643
New York	1,728	36,915	20,136	58,779
North Carolina	3,061	14,813	0	17,874
North Dakota	5,573	1,694	0	7,267
Ohio	5,183	12,833	1,860	19,876
Oklahoma	8,233	21,343	0	29,576
Oregon	833	5,446	0	6,279
Pennsylvania	5,942	14,802	0	20,744
South Carolina	419	423	0	842
South Dakota	6,017	0	0	6,017
Tennessee	9,680	12,895	25,671	48,246
Texas	8,710	65,569	0	74,279
Utah	5,525	15,232	0	20,757
Virginia	1,748	13,788	0	15,536
Washington	14,175	9,519	0	23,694
West Virginia	1,445	0	0	1,445
Wisconsin	163	34,590	95	34,848
Wyoming	1,630	0	0	1,630
Total volume	295,320	574,858	70,464	941,642
Percent of total	31.4	61.1	7.5	100.0

[a] Does not include port area receipts.

Rail's share of interstate shipments increased in 1985 from 58.6 percent in 1977 to 61.9 percent in 1985 (Table 12). Volume of interstate shipments moved by truck increased by 61.7 percent between 1977 and 1985 (Table 12). Truck share of total transport also increased from 17.0 percent in 1977 to 20.4 percent in 1985. Barge lost volume as well as market share, while rail experienced a 42.8 percent increase in volume. The increase in rail and decrease in barge volume was due primarily to higher production in Kansas and North Dakota, which consistently ship large quantities of wheat by rail to port areas. In addition, five states with direct access to inland waterways produced less wheat in 1985 than in 1977 (Arkansas, Illinois, Indiana, Missouri, and Ohio). Rail deregulation was also a factor in the increased market share for rail.

The 1977 data for interstate shipments to port areas indicate that ports were accumulating stocks, since 1977 wheat shipments to ports (1.076 billion bushels) greatly exceeded 1977 exports (891 million bushels) (Table 13). Total receipts at port areas in 1985 were down 15.1 percent from 1977, even though exports increased slightly, from 891.4 to 904.6 million bushels. The South Atlantic region experienced a 73 percent increase in receipts; the Texas Gulf increased by 2.4 percent; California by 6.4 percent. All other port areas decreased in volume between 1977 and 1985. The most dramatic decreases were at Chicago/Duluth (-68.2 percent) and the East Gulf (-53.2 percent), although the East Gulf accounted for less than 2 percent of total export volume in 1977 (Table 13).

Origins of Port Receipts

Wheat exports increased between 1977 and 1985 from all port regions except the Great Lakes. The Gulf and Pacific Port regions maintained approximately the same relative positions with respect to export shares. The states providing the largest proportion of wheat for export in 1977 (Table 15) were in general the largest suppliers in 1985 (Table 14). However, many of these states experienced significant declines as a result of decreased exports in 1985. For example, North Dakota supplied 135 million bushels of wheat to port regions in 1977, but only 63 million bushels in 1985. Oklahoma supplied 102 million bushels in 1977 and 83 million in 1985. The major change in volume shipped to ports from Oklahoma was related to a decrease in production. The change in North Dakota was a shift from port destinations to domestic destinations.

Transport Mode

Summing intrastate shipments and interstate receipts reveals that all except ten states in the study increased their use of grain transportation services in 1985 as compared to 1977 (Appendix tables 16 - 70). Fourteen states had more than doubled their use, though most of these states had small volumes transported in both years. The seven states where transportation demands fell were Florida, Idaho, Indiana, Missouri, Montana, Nebraska, New York, Oklahoma, Oregon, and Washington. A fall in wheat production was the apparent reason behind the fall in transportation demands for Indiana, Missouri, Montana, and Nebraska. Transportation use fell in Florida and New York due to increased production and a consequent reduction in interstate wheat receipts. Oregon's use of transportation fell because less grain was transshipped through Oregon. Instead, the wheat went directly to Pacific NW ports. The reduced transportation use by Idaho, Oklahoma, and Washington was largely due to the underestimate of intrastate truck shipments (no survey was conducted in those states). If 1985 intrastate truck shipments were similar to the volumes in 1977, these states would have had slight increases in their use of grain transportation services.

Table 11.

1977 Interstate Shipments of Wheat for Each State and Mode of Transport.

Originating State	Mode of Transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	74	616	0	690
Arizona	2,322	2,123	0	4,445
Arkansas	1,667	722	12,544	14,933
California	0	53	0	53
Colorado	6,814	12,690	0	19,504
Delaware	1,748	0	120	1,868
Florida	27	141	91	259
Georgia	113	166	0	279
Idaho	13,188	14,654	19,685	47,527
Illinois	7,477	8,496	38,275	54,248
Indiana	12,205	31,064	9,045	52,314
Iowa	1,257	986	1,733	3,976
Kansas	15,551	213,012	13,011	241,574
Kentucky	1,542	4,166	4,096	9,804
Louisiana	288	0	3,500	3,788
Maryland	2,756	0	0	2,756
Michigan	5,400	3,550	0	8,950
Minnesota	1	37,310	111,973	149,284
Mississippi	820	166	2,686	3,672
Missouri	5,701	25,747	30,568	62,016
Montana	20,258	56,533	0	76,791
Nebraska	10,027	44,616	4,484	59,127
Nevada	0	306	0	306
New Jersey	350	0	0	350
New Mexico	0	2,691	0	2,691
New York	244	102	0	346
North Carolina	1,167	160	0	1,327
North Dakota	55,664	156,604	0	212,268
Ohio	6,978	21,543	3,170	31,691
Oklahoma	23,951	103,055	6,898	133,904
Oregon	5,977	8,302	21,438	35,717
Pennsylvania	84	0	0	84
South Carolina	228	52	0	280
South Dakota	17,165	25,844	0	43,009
Tennessee	900	5,083	6,659	12,642
Texas	3,707	12,426	0	16,133
Utah	1,509	1,930	0	3,439
Virginia	836	0	0	836
Washington	6,248	13,157	48,457	67,862
Wisconsin	1,076	1,546	0	2,622
Wyoming	417	1,639	0	2,056
Total volume	235,737	811,251 [a]	338,433	1,385,421
Percent of total volume	17.0	58.6	24.4	100.0

Note: These data include shipments to port cities but not exports via ship to destinations outside the United States.

[a] Includes 684,000 bushels shipped to Mexico by rail during 1977.

Table 12.

Total Volume of Interstate Wheat Shipments by Mode of Transport, 1977 vs. 1985.[a]

	1977*		1985		
	Volume	Percent Share	Volume	Percent Share	Percent Change
	thousands of bushels		*thousands of bushels*		
Truck	235,737	17.0	381,255	20.4	61.7
Rail	811,251	58.6	1,158,325	61.9	42.8
Barge	338,433	24.4	330,658	17.7	-2.3
Total	1,385,421	100.0	1,870,238	100.0	35.0

[a] Shipments to port areas are included.

* Derived from *Wheat Movements in the United States, Interregional Flow Patterns and Transportation Requirements in 1977*, by Mack N. Leath, Lowell D. Hill, and Stephen W. Fuller, p. 18.

Table 13.

Changes in Port Receipts and Inspections for Export of Wheat, 1977 and 1985.

Export Region and Port Area	1977	1985	Percent Change	1977	1985
	Total Receipts *thousands of bushels*			Inspections for Export *thousands of bushels*	
Great Lakes Region					
Chicago/Duluth	175,128	55,705	-68.2	90,658	55,407
Toledo	20,522	15,718	-23.4	15,856	15,648
Saginaw	2,412	1,634	-32.3	2,415	1,000
Subtotal	198,062	73,057	-63.1	108,929	72,055
Atlantic Region					
North Atlantic	13,607	7,046	-48.2	16,172	6,107
South Atlantic	23,873	41,302	+73.0	21,201	44,084
Subtotal	37,480	48,348	+29.0	37,373	50,191
Gulf Region					
East Gulf	12,673	5,982	-53.2	12,548	6,080
Louisiana Gulf	174,291	167,688	-10.8	162,246	156,742
Texas Gulf	312,932	320,467	+2.4	297,756	312,692
Subtotal	503,896	494,137	-4.4	472,550	475,514
Pacific Region					
Northwest	322,815	295,137	-8.6	259,417	292,167
California	13,947	14,836	+6.4	13,135	14,712
Subtotal	336,762	309,973	-8.0	272,552	306,879
Interior Exports	0	3,081		0	0
Total Receipts	1,076,200	928,596	-15.1	891,404	904,639

Table 14.

1985 Movements of Wheat to Points of Export for Each Originating State by Three Modes of Transport.

Originating State or Port Area	Export Region	Mode of Transportation			Total
		Rail	Truck	Barge	
		thousands of bushels			
Alabama	Gulf	0	1,560	2,606	4,166
Arizona	Pacific	0	5,500	0	5,500
Arkansas	Gulf	1,961	2,080	16,456	20,497
California	Pacific	3,445	1,098	0	4,543
Colorado	Gulf	3,878	1,712	0	5,590
	Pacific	21,021	0	0	21,021
Florida	Gulf	0	0	592	592
Idaho	Pacific	26,517	1,000	25,602	53,119
Illinois	Great Lakes	0	425	0	425
	Atlantic	2,926	0	0	2,926
	Gulf	5,282	0	16,275	21,557
Indiana	Great Lakes	790	1,079	0	1,869
	Atlantic	786	0	0	786
	Gulf	304	0	3,824	4,128
Iowa	Atlantic	792	0	0	792
	Gulf	365	0	2,682	3,047
Kansas	Atlantic	6,488	0	0	6,488
	Gulf	124,997	567	2,620	128,184
	Pacific	3,698	0	0	3,698
Kentucky	Gulf	0	0	3,682	3,682
Louisiana	Gulf	0	2,817	1,930	4,747
	Direct Exports	0	0	3,081	3,081
Maryland	Atlantic	2,269	0	0	2,269
Michigan	Great Lakes	440	3,147	0	3,587
	Atlantic	11,076	0	0	11,076
	Gulf	0	0	511	511
	Pacific	414	0	0	414
Minnesota	Great Lakes	8,461	4,701	0	13,162
	Atlantic	1,200	0	0	1,200
	Gulf	0	0	55,766	55,766
	Pacific	1,793	0	0	1,793
Mississippi	Gulf	432	0	3,287	3,719
Missouri	Atlantic	1,833	0	0	1,833
	Gulf	8,435	250	20,528	29,213
	Pacific	392	0	0	392

(continued)

Table 14. — Continued

1985 Movements of Wheat to Points of Export for Each Originating State by Three Modes of Transport.

Originating State or Port Area	Export Region	Mode of Transportation			Total
		Rail	Truck	Barge	
		thousands of bushels			
Montana	Pacific	36,967	1,523	0	38,490
Nebraska	Gulf	8,359	0	1,534	9,893
	Pacific	9,918	0	0	9,918
Nevada	Pacific	13	0	0	13
New Mexico	Gulf	4,126	0	0	4,126
New York	Atlantic	1,544	1,027	0	2,571
North Carolina	Atlantic	773	0	0	773
North Dakota	Great Lakes	31,450	2,005	0	33,455
	Gulf	3,308	0	0	3,308
	Pacific	20,606	5,888	0	26,494
Ohio	Great Lakes	606	11,273	0	11,879
	Atlantic	3,761	0	0	3,761
	Gulf	0	0	2,671	2,671
Oklahoma	Gulf	68,033	4,984	10,043	83,060
Oregon	Pacific	10,176	4,617	17,406	32,199
Pennsylvania	Great Lakes	0	1,000	0	1,000
	Atlantic	0	304	0	304
South Carolina	Atlantic	1,250	800	0	2,050
South Dakota	Great Lakes	7,479	201	0	7,680
	Gulf	467	0	0	467
Tennessee	Gulf	1,268	0	7,646	8,914
Texas	Gulf	76,521	17,998	660	95,179
	Pacific	4,000	0	0	4,000
Utah	Pacific	435	0	0	435
Virginia	Atlantic	4,349	6,707	462	11,518
Washington	Pacific	45,178	1,567	60,037	106,782
West Virginia	Gulf	0	0	186	186
Wisconsin	Gulf	327	0	107	434
Wyoming	Pacific	1,057	105	0	1,162
Total volume		582,467	85,935	260,194	928,596
Percent of total volume		62.73	9.25	28.02	100.00

Table 15.
1977 Movements of Wheat to Points of Export for Each Originating State by Three Modes of Transport.

Originating State or Port Area	Mode of Transportation			Total
	Rail	Truck	Barge	
	thousands of bushels			
Alabama	122	344	1,045	1,511
Arizona	1,744	0	0	1,744
Arkansas	722	0	12,544	13,266
California	169	916	0	1,085
Colorado	4,999	339	0	5,338
Delaware	0	16	120	136
Florida	141	27	91	259
Idaho	10,173	8,870	19,685	38,728
Illinois	6,090	703	36,546	43,339
Indiana	20,623	9,652	7,373	37,648
Iowa	100	0	1,453	1,553
Kansas	116,890	4,010	4,204	125,104
Kentucky	39	0	3,694	3,733
Louisiana	0	0	1,263	1,263
Maryland	0	60	0	60
Michigan	2,961	7,754	0	10,715
Minnesota	20,600	16,376	46,727	83,703
Mississippi	291	241	2,686	3,218
Missouri	14,115	8	28,527	42,650
Montana	39,987	3,290	0	43,277
Nebraska	17,356	3,870	2,424	23,650
Nevada	113	0	0	113
New Mexico	311	0	0	311
New York	50	0	0	50
North Carolina	94	771	0	865
North Dakota	105,485	29,449	0	134,934
Ohio	12,968	10,300	3,170	26,438
Oklahoma	85,479	11,044	5,898	102,421
Oregon	11,973	5,395	32,632	50,000
South Carolina	37	68	0	105
South Dakota	6,435	4,482	0	10,917
Tennessee	162	0	6,659	6,821
Texas	68,424	6,166	0	74,590
Utah	489	0	0	489
Virginia	0	944	428	1,372
Washington	54,871	8,330	93,294	156,495
Wisconsin	1,462	1,029	0	2,491
Wyoming	1,274	132	0	1,406
Duluth-Superior ports	4,786	0	0	4,786
Chicago ports	219	68	2,728	3,015
Toledo ports	3,967	0	0	3,967
Puget Sound ports	1,082	0	0	1,082
Total volume	616,803	134,659	313,191	1,064,653
Percent of total volume	58.0	12.6	29.4	100.0

Source: *Wheat Movements in the United States, Interregional Flow Patterns and Transportation Requirements in 1977*, by Mack N. Leath, Lowell D. Hill, and Stephen W. Fuller, p. 20.

Rail's interstate shipment market share increased substantially in 1985 compared with 1977 for Idaho, Illinois, Michigan, South Dakota, and Texas. Rail's increased market share came at the expense of truck shipments for each state except Idaho and Illinois, where both truck's and barge's shares were reduced. Rail's share of New York's interstate wheat receipts was also much larger in 1985 at the expense of barge's share (Tables 8 and 11).

Transportation by truck was much more important in Kansas and Texas. Truck's 1985 market share of shipments increased in Kansas at the expense of barge and in Texas at the expense of rail. Truck's share of receipts in Kansas increased because of Colorado's large shipments to Kansas.

Most of the ports received a majority of their wheat by rail. The exceptions which received more by truck were Saginaw and Toledo—all minor export points for wheat; the exception which received more by barge was the Louisiana Gulf (Table 63). Ports in the Pacific Northwest area received 103 million bushels of wheat by barge, but rail was still more important with 177 million bushels (Table 65).

Summary and Implications

The demand for transportation services to market wheat increased significantly in 1985 compared with 1977. The overall 19 percent increase in United States wheat production was a major cause, but was not the only reason. The distribution of production and deregulation of the rail industry also contributed to increased use of transportation services, particularly for interstate wheat shipments.

Much of the increase in wheat production for 1985 compared with 1977 occurred in traditional surplus wheat states which require significant rail movements to move their wheat to its final destination (Colorado, Kansas, North Dakota, South Dakota, and Texas). These production increases and the reduction in rail service in many small isolated regions of the wheat belt as a result of deregulation, probably resulted in the increased intrastate shipments by truck.

Deregulation of rail rates helped to increase rail's market share somewhat for interstate shipments, but not by a substantial amount. Rail's market share of interstate shipments was 62 percent in 1985 versus 59 percent in 1977. Most of that increase in rail's share came at the expense of truck's market share. Rail's share of interstate shipments was reduced by increased exports through ports which were traditionally served through barge shipments. This is particularly true for the 12.6 percent increase in exports through Pacific Northwest ports versus the 33.9 percent fall in exports through the Great Lakes. However, increased exports through the South Atlantic ports (which are served almost exclusively by rail) did help rail's market share.

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Appendix

Table 16. Alabama, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arkansas	105	0	0	105
Florida	54	0	0	54
Georgia	25	120	0	145
Illinois	0	0	247	247
Indiana	0	0	50	50
Kentucky	152	0	47	199
Minnesota	0	0	1,935	1,935
Missouri	0	0	1,084	1,084
Nebraska	0	0	702	702
Oklahoma	0	0	200	200
Tennessee	166	0	450	616
Total interstate	502	120	4,715	5,337

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Florida	96	102	0	198
Georgia	78	563	0	641
Mississippi	500	0	35	535
North Carolina	0	242	0	242
Tennessee	970	450	496	1,916
Eastern Gulf	1,560	0	1,512	3,072
Louisiana Gulf	0	0	1,094	1,094
Total interstate	3,204	1,357	3,137	7,698
Intrastate	4,320	359	0	4,679
Total	7,524	1,716	3,137	12,377

Table 17. Arizona, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
California	213	0	0	213
Colorado	22	14	0	36
Kansas	0	737	0	737
Montana	25	395	0	420
New Mexico	709	0	0	709
North Dakota	0	340	0	340
Oklahoma	0	1,058	0	1,058
Texas	10	1,052	0	1,062
Utah	1,000	0	0	1,000
Total interstate	1,979	3,596	0	5,575

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
California	4,419	660	0	5,079
Texas		331	0	331
California Ports	5,500	0	0	5,500
Total interstate	9,919	991	0	10,910
Intrastate	4,100	399	0	4,499
Total	14,019	1,390	0	15,409

Table 18. Arkansas, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	9	0	0	9
Iowa	184	0	0	184
Kansas	596	0	0	596
Louisiana	2,000	0	0	2,000
Mississippi	500	0	0	500
Missouri	226	384	0	610
Nebraska	20	0	0	20
Oklahoma	3,000	2,984	0	5,984
Tennessee	1,523	0	0	1,523
Total interstate	8,058	3,368	0	11,426

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	105	0	0	105
Illinois	0	0	143	143
Louisiana	140	0		140
Mississippi	1,056	0	65	1,121
Missouri	426	0	99	525
Tennessee	1,502	600	0	2,102
Louisiana Gulf	2,080	990	16,406	19,476
Texas Gulf	0	971	50	1,021
Total interstate	5,309	2,561	16,763	24,633
Intrastate	16,682	18	0	16,700
Total	21,991	2,579	16,763	41,333

Table 19. California, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	4,419	660	0	5,079
Colorado	0	6,738	0	6,738
Idaho	0	1,039	0	1,039
Kansas	0	396	0	396
Montana	2,173	793	0	2,966
Nebraska	0	376	0	376
Nevada	1,000	273	0	1,273
New Mexico	0	127	0	127
Oklahoma	0	196	0	196
Oregon	81	127	0	208
Texas	390	6,012	0	6,402
Utah	631	2,783	0	3,414
Wyoming	0	707	0	707
Total interstate	8,694	20,227	0	28,921

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	213	0	0	213
Nevada	268	0	0	268
Oregon	0	269	0	269
Utah	286	0	0	286
Washington	0	131	0	131
Pacific N.W.	0	2,311	0	2,311
California Ports	1,098	1,134	0	2,232
Total interstate	1,865	3,845	0	5,710
Intrastate	19,164	4,036	0	23,200
Total	21,029	7,881	0	28,910

Table 20. Colorado, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Idaho	0	127	0	127
Kansas	0	531	0	531
Montana	17	245	0	262
Nebraska	215	556	0	771
North Dakota	0	207	0	207
Utah	630	323	0	953
Wyoming	252	0	0	252
Total interstate	1,114	1,989	0	3,103

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Arizona	22	14	0	36
California	0	6,738	0	6,738
Idaho	1,000	205	0	1,205
Iowa	1,625	131	0	1,756
Kansas	16,992	13,738	0	30,730
Missouri	1,000	2,951	0	3,951
Nebraska	14,213	2,447	0	16,660
Nevada	1,000	0	0	1,000
New Mexico	3,000	0	0	3,000
Oklahoma	0	1,470	0	1,470
Texas	657	7,540	0	8,197
Utah	2,807	5,730	0	8,537
Wyoming	1,415	0	0	1,415
Texas Gulf	1,712	3,878	0	5,590
Pacific N.W.	0	21,021	0	21,021
Total interstate	45,443	65,863	0	111,306
Intrastate	4,492	5,601	0	10,093
Total	49,935	71,464	0	121,399

Table 21. Connecticut, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Delaware	0	135	0	135
Total interstate	0	135	0	135

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Delaware	0	131	0	131
Total interstate	0	131	0	131
Total	0	131	0	131

Table 22. Delaware, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Connecticut	0	131	0	131
Maryland	1,748	0	0	1,748
Total interstate	1,748	131	0	1,879

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Connecticut	0	135	0	135
Maryland	221	0	0	221
Pennsylvania	1,838	957	0	2,795
Total interstate	2,059	1,092	0	3,151
Intrastate	268	0	0	268
Total	2,327	1,092	0	3,419

Table 23. Florida, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Alabama	96	102	0	198
Georgia	90	541	0	631
Kansas	0	286	0	286
Louisiana	0	0	5,223	5,223
Tennessee	0	3,107	0	3,107
Total interstate	186	4,036	5,223	9,445

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Alabama	54	0	0	54
Georgia	0	918	0	918
Eastern Gulf	0	0	46	46
Louisiana Gulf	0	0	546	546
Total interstate	54	918	592	1,564
Intrastate	0	348	0	348
Total	54	1,266	592	1,912

Table 24. Georgia, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Alabama	78	563	0	641
Florida	0	918	0	918
Illinois	0	979	0	979
Indiana	0	118	0	118
Kentucky	227	1,494	0	1,721
Mississippi	1,000	0	0	1,000
North Carolina	0	148	0	148
South Carolina	1,777	1,027	0	2,804
South Dakota	0	50	0	50
Tennessee	39	3,148	0	3,187
Total interstate	3,121	8,445	0	11,566

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Alabama	25	120	0	145
Florida	90	541	0	631
Mississippi	0	80	0	80
North Carolina	0	960	0	960
South Carolina	100	131	0	231
Tennessee	250	1,770	0	2,020
Virginia	100	0	0	100
Total interstate	565	3,602	0	4,167
Intrastate	2,504	7,710	0	10,214
Total	3,069	11,312	0	14,381

Table 25. Idaho, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Colorado	1,000	205	0	1,205
Montana	183	0	0	183
Nebraska	0	326	0	326
Oregon	0	114	0	114
Utah	18	0	0	18
Washington	33	0	0	33
Wyoming	21	166	0	187
Total interstate	1,255	811	0	2,066

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
California	0	1,039	0	1,039
Colorado	0	127	0	127
Utah	764	3,036	0	3,800
Pacific N.W.	1,000	24,462	25,602	51,064
California Ports	0	2,055	0	2,055
Total interstate	1,764	30,719	25,602	58,085
Intrastate	0	613	0	613
Total	1,764	31,332	25,602	58,698

Table 26. Illinois, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arkansas	0	0	143	143
Indiana	2,894	634	0	3,528
Iowa	744	990	94	1,828
Kansas	0	400	0	400
Kentucky	871	81	53	1,005
Michigan	1,749	369	0	2,118
Minnesota	152	27,074	3,604	30,830
Missouri	2,298	1,598	1,154	5,050
Nebraska	0	2,216	411	2,627
North Dakota	0	1,180	0	1,180
Ohio	100	132	0	232
South Dakota	0	2,403	0	2,403
Tennessee	0	0	52	52
Wisconsin	726	1,980	0	2,706
Total interstate	9,534	39,057	5,511	54,102

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	0	0	247	247
Arkansas	9	0	0	9
Georgia	0	979	0	979
Indiana	2,985	3,628	509	7,122
Iowa	541	0	0	541
Kentucky	4,209	0	0	4,209
Michigan	0	373	0	373
Minnesota	0	1,500	0	1,500
Mississippi	500	0	141	641
Missouri	5,411	467	50	5,928
Nebraska	0	127	0	127
New York	0	2,493	0	2,493
North Carolina	0	229	0	229
Ohio	0	529	0	529
Tennessee	0	847	1,498	2,345
Virginia	0	2,404	0	2,404
Chicago/Duluth Port	425	0	0	425
South Atlantic	0	2,926	0	2,926
Eastern Gulf	0	131	0	131
Louisiana Gulf	0	5,151	16,177	21,328
Texas Gulf	0	0	98	98
Total interstate	14,080	21,784	18,720	54,584
Intrastate	29,744	3,302	877	33,923
Total	43,824	25,086	19,597	88,507

Table 27. Indiana, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	2,985	3,628	509	7,122
Kansas	0	267	0	267
Kentucky	100	51	162	313
Michigan	500	26	0	526
Minnesota	0	333	1,501	1,834
Missouri	0	0	1,431	1,431
Nebraska	0	886	0	886
North Dakota	0	1,664	0	1,664
Ohio	1,253	2	0	1,255
South Dakota	0	3,355	0	3,355
Tennessee	164	0	102	266
Wisconsin	0	330	0	330
Total interstate	5,002	10,542	3,705	19,249

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	0	0	50	50
Georgia	0	118	0	118
Illinois	2,894	634	0	3,528
Kentucky	3,031	22	0	3,053
Michigan	2,535	304	0	2,839
Missouri	0	196	0	196
North Carolina	0	140	0	140
Ohio	3,185	2,493	0	5,678
Pennsylvania	0	4,522	0	4,522
Tennessee	658	2,900	1,143	4,701
Virginia	0	1,651	0	1,651
Chicago/Duluth Ports	0	790	0	790
Toledo, OH	1,000	0	0	1,000
Saginaw, MI	79	0	0	79
North Atlantic	0	786	0	786
Eastern Gulf	0	304	0	304
Louisiana Gulf	0	0	3,763	3,763
Texas Gulf	0	0	61	61
Total interstate	13,382	14,860	5,017	33,259
Intrastate	26,869	3,899	48	30,816
Total	40,251	18,759	5,065	64,075

Table 28. Iowa, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Colorado	1625	131	0	1,756
Illinois	541	0	0	541
Kansas	650	117	0	767
Minnesota	2,025	1,331	0	3,356
Missouri	0	320	0	320
Nebraska	812	3,869	0	4,681
North Dakota	0	585	0	585
South Dakota	796	6,200	0	6,996
Wisconsin	2,000	0	0	2,000
Total interstate	8,449	12,553	0	21,002

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arkansas	184	0	0	184
Illinois	744	990	94	1,828
Kansas	0	517	0	517
Missouri	2,000	1,000	0	3,000
Nebraska	0	196	0	196
Tennessee	0	0	293	293
Texas	0	385	0	385
South Atlantic	0	792	0	792
Louisiana Gulf	0	0	2,682	2,682
Texas Gulf	0	365	0	365
Total interstate	2,928	4,245	3,069	10,242
Intrastate	658	951	0	1,609
Total	3,586	5,196	3,069	11,851

Table 29. Kansas, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Colorado	16,992	13,738	0	30,730
Iowa	0	517	0	517
Missouri	350	2,495	0	2,845
Montana	0	528	0	528
Nebraska	1,332	8,280	0	9,612
North Dakota	0	1,203	0	1,203
Oklahoma	4,573	1,212	0	5,785
South Dakota	0	346	0	346
Texas	0	756	0	756
Total interstate	23,247	29,075	0	52,322

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	0	737	0	737
Arkansas	596	0	0	596
California	0	396	0	396
Colorado	0	531	0	531
Florida	0	286	0	286
Illinois	0	400	0	400
Indiana	0	267	0	267
Iowa	650	117	0	767
Minnesota	0	1,170	0	1,170
Missouri	9,245	22,717	0	31,962
Nebraska	7,721	7,093	0	14,814
Nevada	0	1,317	0	1,317
North Carolina	1,976	4,675	0	6,651
Oklahoma	8,123	12,050	0	20,173
Texas	4,948	36,641	0	41,589
Utah	0	1,175	0	1,175
Washington	0	351	0	351
South Atlantic	0	6,488	0	6,488
Eastern Gulf	0	111	0	111
Louisiana Gulf	0	836	2,620	3,456
Texas Gulf	567	124,050	0	124,617
Pacific N.W.	0	3,698	0	3,698
Total interstate	33,826	225,106	2,620	261,552
Intrastate	87,677	167,102	0	254,779
Total	121,503	392,208	2,620	516,331

Table 30. Kentucky, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	4,209	0	0	4,209
Indiana	3,031	22	0	3,053
Ohio	475	425	0	900
Tennessee	1,250	0	0	1,250
Total interstate	8,965	447	0	9,412

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	152	0	47	199
Georgia	227	1,494	0	1,721
Illinois	871	81	53	1,005
Indiana	100	51	162	313
North Carolina	0	114	0	114
Ohio	453	0	0	453
Tennessee	5,000	564	1,836	7,400
Louisiana Gulf	0	0	3,627	3,627
Texas Gulf	0	0	55	55
Total interstate	6,803	2,304	5,780	14,887
Intrastate	1,304	0	500	1,804
Total	8,107	2,304	6,280	16,691

Table 31. Louisiana, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arkansas	140	0	0	140
West Virginia	0	0	186	186
Total interstate	140	0	186	326

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arkansas	2,000	0	0	2,000
Florida	0	0	5,223	5,223
Mississippi	1,811	0	0	1,811
Nebraska	0	23	0	23
Texas	75	0	0	75
Louisiana Gulf	2,817	0	1,538	4,355
Texas Gulf	0	0	392	392
Direct Exports	0	0	3,081	3,081
Total interstate	6,703	23	10,234	16,960
Intrastate	875	0	1,917	2,792
Total	7,578	23	12,151	19,752

Table 32. Maryland, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Delaware	221	0	0	221
Total interstate	221	0	0	221

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Delaware	1,748	0	0	1,748
Pennsylvania	1,399	100	0	1,499
Virginia	251	0	0	251
West Virginia	500	0	0	500
South Atlantic	0	2,269	0	2,269
Total interstate	3,898	2,369	0	6,267
Total	3,898	2,369	0	6,267

Table 33. Massachusetts, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
North Dakota	0	268	0	268
Total interstate	0	268	0	268

Table 34. Michigan, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	0	373	0	373
Indiana	2,535	304	0	2,839
Ohio	720	119	0	839
Total interstate	3,255	796	0	4,051

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	1,749	369	0	2,118
Indiana	500	26	0	526
Minnesota	0	173	0	173
Nebraska	0	327	0	327
New York	0	5,159	0	5,159
Ohio	1,532	3,584	0	5,116
Tennessee	0	0	51	51
Chicago/Duluth Ports	193	0	0	193
Toledo, OH	1,399	440	0	1,839
Saginaw, MI	1,555	0	0	1,555
North Atlantic	0	2,485	0	2,485
South Atlantic	0	8,591	0	8,591
Louisiana Gulf	0	0	511	511
Pacific N.W.	0	414	0	414
Total interstate	6,928	21,568	562	29,058
Intrastate	7,490	2,762	0	10,252
Total	14,418	24,330	562	39,310

Table 35. Minnesota, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation: Truck	Rail	Barge	Total
	thousands of bushels			
Illinois	0	1,500	0	1,500
Kansas	0	1,170	0	1,170
Michigan	0	173	0	173
Montana	1,086	1,725	0	2,811
North Dakota	49,177	74,328	0	123,505
South Dakota	20,502	44,690	0	65,192
Wisconsin	2,000	0	0	2,000
Total interstate	72,765	123,586	0	196,351

Wheat Shipments to Various Destinations

Destination	Mode of transportation: Truck	Rail	Barge	Total
	thousands of bushels			
Alabama	0		1,935	1,935
Illinois	152	27,074	3,604	30,830
Indiana	0	333	1,501	1,834
Iowa	2,025	1,331	0	3,356
Missouri	0	1,613	2,522	4,135
New York	0	17,782	7,925	25,707
North Carolina	0	4,598	0	4,598
North Dakota	1,000	160	0	1,160
Ohio	0	2,225	1,605	3,830
Pennsylvania	66	2,777	0	2,843
South Dakota	1,006	0	0	1,006
Tennessee	0	2,551	13,062	15,613
Virginia	0	5,224	0	5,224
Wisconsin	33	5,770	47	5,850
Chicago/Duluth Ports	4,701	8,461	0	13,162
North Atlantic	0	1,200	0	1,200
Louisiana Gulf	0	0	55,561	55,561
Texas Gulf	0	0	205	205
Pacific N.W.	0	1,793	0	1,793
Total interstate	8,983	82,892	87,967	179,842
Intrastate	25,598	25,139	54	50,791
Total	34,581	108,031	88,021	230,633

Table 36. Mississippi, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation: Truck	Rail	Barge	Total
	thousands of bushels			
Alabama	500	0	35	535
Arkansas	1,056	0	65	1,121
Georgia	0	80	0	80
Illinois	500	0	141	641
Louisiana	1,811	0	0	1,811
Missouri	0	0	426	426
Tennessee	220	131	0	351
Total interstate	4,087	211	667	4,965

Wheat Shipments to Various Destinations

Destination	Mode of transportation: Truck	Rail	Barge	Total
	thousands of bushels			
Arkansas	500	0	0	500
Georgia	1,000	0	0	1,000
Tennessee	1,000	300	0	1,300
Eastern Gulf	0	300	0	300
Louisiana Gulf	0	132	3,287	3,419
Total interstate	2,500	732	3,287	6,519
Intrastate	2,967	252	168	3,387
Total	5,467	984	3,455	9,906

Table 37. Missouri, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arkansas	426	0	99	525
Colorado	1,000	2,951	0	3,951
Illinois	5,411	467	50	5,928
Indiana	0	196	0	196
Iowa	2,000	1,000	0	3,000
Kansas	9,245	22,717	0	31,962
Minnesota	0	1,613	2,522	4,135
Montana	0	807	0	807
Nebraska	2,076	6,576	24	8,676
Oklahoma	1,000	395	0	1,395
South Dakota	0	1,022	0	1,022
Total interstate	21,158	37,744	2,695	61,597

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	0	0	1,084	1,084
Arkansas	226	384	0	610
Illinois	2,298	1,598	1,154	5,050
Indiana	0	0	1,431	1,431
Iowa	0	320	0	320
Kansas	350	2,495	0	2,845
Mississippi	0	0	426	426
New York	0	558	0	558
North Carolina	0	408	0	408
Ohio	0	1,000	0	1,000
Tennessee	300	0	6,972	7,272
Wisconsin	130	0	48	178
South Atlantic	0	1,833	0	1,833
Eastern Gulf	250	500	0	750
Louisiana Gulf	0	1,767	20,528	22,295
Texas Gulf	0	6,668	0	6,668
Pacific N.W.	0	392	0	392
Total interstate	3,554	17,923	31,643	53,120
Intrastate	5,955	7,140	0	13,095
Total	9,509	25,063	31,643	66,215

Table 38. Montana, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Nebraska	1,817	0	0	1,817
North Dakota	0	2,159	0	2,159
Wyoming	37	0	0	37
Total interstate	1,854	2,159	0	4,013

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	25	395	0	420
California	2,173	793	0	2,966
Colorado	17	245	0	262
Idaho	183	0	0	183
Kansas	0	528	0	528
Minnesota	1,086	1,725	0	2,811
Missouri	0	807	0	807
Nebraska	9	0	0	9
North Dakota	2,063	1,534	0	3,597
Oregon	808	4,644	0	5,452
Texas	0	341	0	341
Utah	20	907	0	927
Washington	11,028	8,707	0	19,735
Pacific N.W.	1,523	35,918	0	37,441
California Ports	0	1,049	0	1,049
Total interstate	18,935	57,593	0	76,528
Intrastate	0	1,172	0	1,172
Total	18,935	58,765	0	77,700

Table 39. Nebraska, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Colorado	14,213	2,447	0	16,660
Illinois	0	127	0	127
Iowa	0	196	0	196
Kansas	7,721	7,093	0	14,814
Louisiana	0	23	0	23
Michigan	0	327	0	327
Montana	9	0	0	9
North Dakota	0	832	0	832
South Dakota	994	3,822	0	4,816
Wyoming	65	90	0	155
Total interstate	23,002	14,957	0	37,959

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Alabama	0	0	702	702
Arkansas	20	0	0	20
California	0	376	0	376
Colorado	215	556	0	771
Idaho	0	326	0	326
Illinois	0	2,216	411	2,627
Indiana	0	886	0	886
Iowa	812	3,869	0	4,681
Kansas	1,332	8,280	0	9,612
Missouri	2,076	6,576	24	8,676
Montana	1,817	0	0	1,817
Ohio	0	2,012	0	2,012
Oklahoma	0	93	0	93
Pennsylvania	0	1,901	0	1,901
South Dakota	11	0	0	11
Tennessee	0	0	225	225
Utah	240	3,236	0	3,476
Wyoming	215	0	0	215
Louisiana Gulf	0	2,067	1,534	3,601
Texas Gulf	0	6,292	0	6,292
Pacific N.W.	0	9,918	0	9,918
Total interstate	6,738	48,604	2,896	58,238
Intrastate	38,031	12,961	0	50,992
Total	44,769	61,565	2,896	109,230

Table 40. Nevada, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
California	268	0	0	268
Colorado	1,000	0	0	1,000
Kansas	0	1,317	0	1,317
Oklahoma	0	129	0	129
Texas	0	132	0	132
Utah	8	98	0	106
Total interstate	1,276	1,676	0	2,952

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
California	1,000	273	0	1,273
Oregon	0	127	0	127
Pacific N.W.	0	13	0	13
Total interstate	1,000	413	0	1,413
Total	1,000	413	0	1,413

Table 41. New Jersey, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Ohio	0	67	0	67
Total interstate	0	67	0	67

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Pennsylvania	688	145	0	833
Total interstate	688	145	0	833
Total	688	145	0	833

Table 42. New Mexico, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Colorado	3,000	0	0	3,000
Texas	2,643	0	0	2,643
Total interstate	5,643	0	0	5,643

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	709	0	0	709
California	0	127	0	127
Texas	2,015	3,883	0	5,898
Texas Gulf	0	4,126	0	4,126
Total interstate	2,724	8,136	0	10,860
Intrastate	476	0	0	476
Total	3,200	8,136	0	11,336

Table 43. New York, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	0	2,493	0	2,493
Michigan	0	5,159	0	5,159
Minnesota	0	17,782	7,925	25,707
Missouri	0	558	0	558
North Dakota	0	1,377	0	1,377
Ohio	0	3,758	500	4,258
Pennsylvania	1,728	1,404	0	3,132
South Dakota	0	3,744	0	3,744
Wisconsin	0	640	11,711	12,351
Total interstate	1,728	36,915	20,136	58,779

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Ohio	0	240	0	240
Pennsylvania	1,192	98	0	1,290
North Atlantic	1,000	1,544	0	2,544
South Atlantic	27	0	0	27
Total interstate	2,219	1,882	0	4,101
Intrastate	6,113	5,275	0	11,388
Total	8,332	7,157	0	15,489

Table 44. North Carolina, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation: Truck	Rail	Barge	Total
	thousands of bushels			
Alabama	0	242	0	242
Georgia	0	960	0	960
Illinois	0	229	0	229
Indiana	0	140	0	140
Kansas	1,976	4,675	0	6,651
Kentucky	0	114	0	114
Minnesota	0	4,598	0	4,598
Missouri	0	408	0	408
Ohio	0	478	0	478
South Carolina	1,078	582	0	1,660
Tennessee	0	1,980	0	1,980
Virginia	7	407	0	414
Total interstate	3,061	14,813	0	17,874

Wheat Shipments to Various Destinations

Destination	Mode of transportation: Truck	Rail	Barge	Total
	thousands of bushels			
Georgia	0	148	0	148
Pennsylvania	0	71	0	71
South Carolina	319	292	0	611
Tennessee	0	119	0	119
Virginia	1,243	1,363	0	2,606
South Atlantic	0	773	0	773
Total interstate	1,562	2,766	0	4,328
Intrastate	14,157	1,503	0	15,660
Total	15,719	4,269	0	19,988

Table 45. North Dakota, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation: Truck	Rail	Barge	Total
	thousands of bushels			
Minnesota	1,000	160	0	1,160
Montana	2,063	1,534	0	3,597
South Dakota	2,510	0	0	2,510
Total interstate	5,573	1,694	0	7,267

Wheat Shipments to Various Destinations

Destination	Mode of transportation: Truck	Rail	Barge	Total
	thousands of bushels			
Arizona	0	340	0	340
Colorado	0	207	0	207
Illinois	0	1,180	0	1,180
Indiana	0	1,664	0	1,664
Iowa	0	585	0	585
Kansas	0	1,203	0	1,203
Massachusetts	0	268	0	268
Minnesota	49,177	74,328	0	123,505
Montana	0	2,159	0	2,159
Nebraska	0	832	0	832
New York	0	1,377	0	1,377
South Dakota	5,000	0	0	5,000
Tennessee	0	359	0	359
Texas	0	1,180	0	1,180
Utah	60	400	0	460
Wisconsin	0	26,061	0	26,061
Chicago/Duluth Ports	2,005	31,450	0	33,455
Louisiana Gulf	0	528	0	528
Texas Gulf	0	2,780	0	2,780
Pacific N.W.	5,888	20,606	0	26,494
Total interstate	62,130	167,507	0	229,637
Intrastate		7,963	0	7,963
Total	62,130	175,470	0	237,600

Table 46. Ohio, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	0	529	0	529
Indiana	3,185	2,493	0	5,678
Kentucky	453	0	0	453
Michigan	1,532	3,584	0	5,116
Minnesota	0	2,225	1,605	3,830
Missouri	0	1,000	0	1,000
Nebraska	0	2,012	0	2,012
New York	0	240	0	240
Pennsylvania	13	0	0	13
Wisconsin	0	750	255	1,005
Total interstate	5,183	12,833	1,860	19,876

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	100	132	0	232
Indiana	1,253	2	0	1,255
Kentucky	475	425	0	900
Michigan	720	119	0	839
New Jersey	0	67	0	67
New York	0	3,758	500	4,258
North Carolina	0	478	0	478
Pennsylvania	0	1,786	0	1,786
Tennessee	0	2,206	95	2,301
Virginia	54	2,302	0	2,356
West Virginia	345	0	0	345
Toledo, OH	11,273	606	0	11,879
North Atlantic	0	31	0	31
South Atlantic	0	3,731	0	3,731
Louisiana Gulf	0	0	2,671	2,671
Total interstate	14,220	15,643	3,266	33,129
Intrastate	24,570	7,413	50	32,033
Total	38,790	23,056	3,316	65,162

Table 47. Oklahoma, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Colorado	0	1,470	0	1,470
Kansas	8,123	12,050	0	20,173
Nebraska	0	93	0	93
Texas	110	7,730	0	7,840
Total interstate	8,233	21,343	0	29,576

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	0	0	200	200
Arizona	0	1,058	0	1,058
Arkansas	3,000	2,984	0	5,984
California	0	196	0	196
Kansas	4,573	1,212	0	5,785
Missouri	1,000	395	0	1,395
Nevada	0	129	0	129
Texas	1,015	14,527	0	15,542
Louisiana Gulf	0	0	10,043	10,043
Texas Gulf	4,984	68,033	0	73,017
Total interstate	14,572	88,534	10,243	113,349
Intrastate	0	33,006	0	33,006
Total	14,572	121,540	10,243	146,355

Table 48. Oregon, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
California	0	269	0	269
Montana	808	4,644	0	5,452
Nevada	0	127	0	127
Utah	25	105	0	130
Washington	0	301	0	301
Total interstate	833	5,446	0	6,279

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
California	81	127	0	208
Idaho	0	114	0	114
Washington	3,122	0	0	3,122
Pacific N.W.	4,617	10,176	17,406	32,199
Total interstate	7,820	10,417	17,406	35,643
Intrastate	0	134	0	134
Total	7,820	10,551	17,406	35,777

Table 49. Pennsylvania, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Delaware	1,838	957	0	2,795
Indiana	0	4,522	0	4,522
Maryland	1,399	100	0	1,499
Minnesota	66	2,777	0	2,843
Nebraska	0	1,901	0	1,901
New Jersey	688	145	0	833
New York	1,192	98	0	1,290
North Carolina	0	71	0	71
Ohio	0	1,786	0	1,786
South Carolina	0	131	0	131
Virginia	759	131	0	890
Wisconsin	0	2,183	0	2,183
Total interstate	5,942	14,802	0	20,744

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
New York	1,728	1,404	0	3,132
Ohio	13	0	0	13
West Virginia	600	0	0	600
Toledo, OH	1,000	0	0	1,000
South Atlantic	304	0	0	304
Total interstate	3,645	1,404	0	5,049
Intrastate	4,614	808	0	5,422
Total	8,259	2,212	0	10,471

Table 50. South Carolina, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Georgia	100	131	0	231
North Carolina	319	292	0	611
Total interstate	419	423	0	842

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Georgia	1,777	1,027	0	2,804
North Carolina	1,078	582	0	1,660
Pennsylvania	0	131	0	131
Tennessee	0	229	0	229
Virginia	100	0	0	100
South Atlantic	800	1,250	0	2,050
Total interstate	3,755	3,219	0	6,974
Intrastate	0	2,801	0	2,801
Total	3,755	6,020	0	9,775

Table 51. South Dakota, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Minnesota	1,006	0	0	1,006
Nebraska	11	0	0	11
North Dakota	5,000	0	0	5,000
Total interstate	6,017	0	0	6,017

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Georgia	0	50	0	50
Illinois	0	2,403	0	2,403
Indiana	0	3,355	0	3,355
Iowa	796	6,200	0	6,996
Kansas	0	346	0	346
Minnesota	20,502	44,690	0	65,192
Missouri	0	1,022	0	1,022
Nebraska	994	3,822	0	4,816
New York	0	3,744	0	3,744
North Dakota	2,510	0	0	2,510
Texas	0	741	0	741
Utah	172	70	0	242
Wisconsin	0	2,759	0	2,759
Chicago/Duluth Ports	201	7,479	0	7,680
Texas Gulf	0	467	0	467
Total interstate	25,175	77,148	0	102,323
Intrastate	2,263	177	0	2,440
Total	27,438	77,325	0	104,763

Table 52. Tennessee, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	970	450	496	1,916
Arkansas	1,502	600	0	2,102
Georgia	250	1,770	0	2,020
Illinois	0	847	1,498	2,345
Indiana	658	2,900	1,143	4,701
Iowa	0	0	293	293
Kentucky	5,000	564	1,836	7,400
Michigan	0	0	51	51
Minnesota	0	2,551	13,062	15,613
Mississippi	1,000	300	0	1,300
Missouri	300	0	6,972	7,272
Nebraska	0	0	225	225
North Carolina	0	119	0	119
North Dakota	0	359	0	359
Ohio	0	2,206	95	2,301
South Carolina	0	229	0	229
Total interstate	9,680	12,895	25,671	48,246

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	166	0	450	616
Arkansas	1,523	0	0	1,523
Florida	0	3,107	0	3,107
Georgia	39	3,148	0	3,187
Illinois	0	0	52	52
Indiana	164	0	102	266
Kentucky	1,250	0	0	1,250
Mississippi	220	131	0	351
North Carolina	0	1,980	0	1,980
Virginia	0	439	0	439
Eastern Gulf	0	1,268	0	1,268
Louisiana Gulf	0	0	7,646	7,646
Total interstate	3,362	10,073	8,250	21,685
Intrastate	13,250	1,660	1,287	16,197
Total	16,612	11,733	9,537	37,882

Table 53. Texas, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	0	331	0	331
Colorado	657	7,540	0	8,197
Iowa	0	385	0	385
Kansas	4,948	36,641	0	41,589
Louisiana	75	0	0	75
Montana	0	341	0	341
New Mexico	2,015	3,883	0	5,898
North Dakota	0	1,180	0	1,180
Oklahoma	1,015	14,527	0	15,542
South Dakota	0	741	0	741
Total interstate	8,710	65,569	0	74,279

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	10	1,052	0	1,062
California	390	6,012	0	6,402
Kansas	0	756	0	756
Nevada	0	132	0	132
New Mexico	2,643	0	0	2,643
Oklahoma	110	7,730	0	7,840
Louisiana Gulf	0	133	660	793
Texas Gulf	17,998	76,388	0	94,386
California Ports	0	4,000	0	4,000
Total interstate	21,151	96,203	660	118,014
Intrastate	48,960	35,485	0	84,445
Total	70,111	131,688	660	202,459

Table 54. Utah, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
California	286	0	0	286
Colorado	2,807	5,730	0	8,537
Idaho	764	3,036	0	3,800
Kansas	0	1,175	0	1,175
Montana	20	907	0	927
Nebraska	240	3,236	0	3,476
North Dakota	60	400	0	460
South Dakota	172	70	0	242
Wyoming	1,176	678	0	1,854
Total interstate	5,525	15,232	0	20,757

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	1,000	0	0	1,000
California	631	2,783	0	3,414
Colorado	630	323	0	953
Idaho	18	0	0	18
Nevada	8	98	0	106
Oregon	25	105	0	130
Washington	25	330	0	355
Pacific N.W.	0	435	0	435
Total interstate	2,337	4,074	0	6,411
Intrastate	1,562	1,160	0	2,722
Total	3,899	5,234	0	9,133

Table 55. Virginia, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Georgia	100	0	0	100
Illinois	0	2,404	0	2,404
Indiana	0	1,651	0	1,651
Maryland	251	0	0	251
Minnesota	0	5,224	0	5,224
North Carolina	1,243	1,363	0	2,606
Ohio	54	2,302	0	2,356
South Carolina	100	0	0	100
Tennessee	0	439	0	439
Wisconsin	0	405	0	405
Total interstate	1,748	13,788	0	15,536

Wheat Shipments to Various Destinations

Destination	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
North Carolina	7	407	0	414
Pennsylvania	759	131	0	890
South Atlantic	6,707	4,349	462	11,518
Total interstate	7,473	4,887	462	12,822
Intrastate	359	570	0	929
Total	7,832	5,457	462	13,751

Table 56. Washington, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
California	0	131	0	131
Kansas	0	351	0	351
Montana	11,028	8,707	0	19,735
Oregon	3,122	0	0	3,122
Utah	25	330	0	355
Total interstate	14,175	9,519	0	23,694

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Idaho	33	0	0	33
Oregon	0	301	0	301
Pacific N.W.	1,567	45,178	60,037	106,782
Total interstate	1,600	45,479	60,037	107,116
Intrastate	0	2,000	10,000	12,000
Total	1,600	47,479	70,037	119,116

Table 57. West Virginia, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Maryland	500	0	0	500
Ohio	345	0	0	345
Pennsylvania	600	0	0	600
Total interstate	1,445	0	0	1,445

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Louisiana	0	0	186	186
Louisiana Gulf	0	0	186	186
Total interstate	0	0	372	372
Total	0	0	372	372

Table 58. Wisconsin, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Minnesota	33	5,770	47	5,850
Missouri	130	0	48	178
North Dakota	0	26,061	0	26,061
South Dakota	0	2,759	0	2,759
Total interstate	163	34,590	95	34,848

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Illinois	726	1,980	0	2,706
Indiana	0	330	0	330
Iowa	2,000	0	0	2,000
Minnesota	2,000	0	0	2,000
New York	0	640	11,711	12,351
Ohio	0	750	255	1,005
Pennsylvania	0	2,183	0	2,183
Virginia	0	405	0	405
Louisiana Gulf	0	0	107	107
Texas Gulf	0	327	0	327
Total interstate	4,726	6,615	12,073	23,414
Intrastate	0	927	0	927
Total	4,726	7,542	12,073	24,341

Table 59. Wyoming, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Colorado	1,415	0	0	1,415
Nebraska	215	0	0	215
Total interstate	1,630	0	0	1,630

Wheat Shipments to Various Destinations

Destination	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
California	0	707	0	707
Colorado	252	0	0	252
Idaho	21	166	0	187
Montana	37	0	0	37
Nebraska	65	90	0	155
Utah	1,176	678	0	1,854
Pacific N.W.	105	1,057	0	1,162
Total interstate	1,656	2,698	0	4,354
Intrastate	34	0	0	34
Total	1,690	2,698	0	4,388

Table 60. California Ports, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arizona	5,500	0	0	5,500
California	1,098	1,134	0	2,232
Idaho	0	2,055	0	2,055
Montana	0	1,049	0	1,049
Texas	0	4,000	0	4,000
Total interstate	6,598	8,238	0	14,836

Table 61. Chicago/Duluth Ports, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Illinois	425	0	0	425
Indiana	0	790	0	790
Michigan	193	0	0	193
Minnesota	4,701	8,461	0	13,162
North Dakota	2,005	31,450	0	33,455
South Dakota	201	7,479	0	7,680
Total interstate	7,525	48,180	0	55,705

Table 62. Eastern Gulf Ports, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	1,560	0	1,512	3,072
Florida	0	0	46	46
Illinois	0	131	0	131
Indiana	0	304	0	304
Kansas	0	111	0	111
Mississippi	0	300	0	300
Missouri	250	500	0	750
Tennessee	0	1,268	0	1,268
Total interstate	1,810	2,614	1,558	5,982

Table 63. Louisiana Gulf Ports, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Alabama	0	0	1,094	1,094
Arkansas	2,080	990	16,406	19,476
Florida	0	0	546	546
Illinois	0	5,151	16,177	21,328
Indiana	0	0	3,763	3,763
Iowa	0	0	2,682	2,682
Kansas	0	836	2,620	3,456
Kentucky	0	0	3,627	3,627
Louisiana	2,817	0	1,538	4,355
Michigan	0	0	511	511
Minnesota	0	0	55,561	55,561
Mississippi	0	132	3,287	3,419
Missouri	0	1,767	20,528	22,295
Nebraska	0	2,067	1,534	3,601
North Dakota	0	528	0	528
Ohio	0	0	2,671	2,671
Oklahoma	0	0	10,043	10,043
Tennessee	0	0	7,646	7,646
Texas	0	133	660	793
West Virginia	0	0	186	186
Wisconsin	0	0	107	107
Total interstate	4,897	11,604	151,187	167,688

Table 64. North Atlantic Ports, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Indiana	0	786	0	786
Michigan	0	2,485	0	2,485
Minnesota	0	1,200	0	1,200
New York	1,000	1,544	0	2,544
Ohio	0	31	0	31
Total interstate	1,000	6,046	0	7,046

Table 65. Pacific Northwest Ports, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
California	0	2,311	0	2,311
Colorado	0	21,021	0	21,021
Idaho	1,000	24,462	25,602	51,064
Kansas	0	3,698	0	3,698
Michigan	0	414	0	414
Minnesota	0	1,793	0	1,793
Missouri	0	392	0	392
Montana	1,523	35,918	0	37,441
Nebraska	0	9,918	0	9,918
Nevada	0	13	0	13
North Dakota	5,888	20,606	0	26,494
Oregon	4,617	10,176	17,406	32,199
Utah	0	435	0	435
Washington	1,567	45,178	60,037	106,782
Wyoming	105	1,057	0	1,162
Total interstate	14,700	177,392	103,045	295,137

Table 66. Saginaw Port Area, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Indiana	79	0	0	79
Michigan	1,555	0	0	1,555
Total interstate	1,634	0	0	1,634

Table 67. South Atlantic Ports, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			
	Truck	Rail	Barge	Total
	thousands of bushels			
Illinois	0	2,926	0	2,926
Iowa	0	792	0	792
Kansas	0	6,488	0	6,488
Maryland	0	2,269	0	2,269
Michigan	0	8,591	0	8,591
Missouri	0	1,833	0	1,833
New York	27	0	0	27
North Carolina	0	773	0	773
Ohio	0	3,731	0	3,731
Pennsylvania	304	0	0	304
South Carolina	800	1,250	0	2,050
Virginia	6,707	4,349	462	11,518
Total interstate	7,838	33,002	462	41,302

Table 68. Texas Gulf Ports, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Arkansas	0	971	50	1,021
Colorado	1,712	3,878	0	5,590
Illinois	0	0	98	98
Indiana	0	0	61	61
Iowa	0	365	0	365
Kansas	567	124,050	0	124,617
Kentucky	0	0	55	55
Louisiana	0	0	392	392
Minnesota	0	0	205	205
Missouri	0	6,668	0	6,668
Nebraska	0	6,292	0	6,292
New Mexico	0	4,126	0	4,126
North Dakota	0	2,780	0	2,780
Oklahoma	4,984	68,033	0	73,017
South Dakota	0	467	0	467
Texas	17,998	76,388	0	94,386
Wisconsin	0	327	0	327
Total interstate	25,261	294,345	861	320,467

Table 69. Toledo Port Area, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Indiana	1,000	0	0	1,000
Michigan	1,399	440	0	1,839
Ohio	11,273	606	0	11,879
Pennsylvania	1,000	0	0	1,000
Total interstate	14,672	1,046	0	15,718

Table 70. Direct Exports from Interior Points, 1985

Wheat Receipts from Various Origins

Origin	Mode of transportation			Total
	Truck	Rail	Barge	
	thousands of bushels			
Louisiana	0	0	3,081	3,081
Total interstate	0	0	3,081	3,081

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